Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

.96
31Fso
op.2

U. S. DEPT. OF AGRICULTURE
NATIONAL AGRICULTURAL LIBRARY
APR 2 2 1963
CURRENT SERIAL RECORDS

WATER SUPPLY OUTLOOK
and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
for
OREGON

UNITED STATES DEPARTMENT of AGRICULTURE···SOIL CONSERVATION SERVICE

and

OREGON STATE UNIVERSITY

and

STATE ENGINEER of OREGON

Data included in this report were obtained by the agencies named above in cooperation with other Federal, State and private organizations.

AS OF
APR. 1, 1963

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Water Supply Outlook Reports:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from advance estimates of the streamflow.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, up to 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1400 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

Streamflow forecasts are obtained by a comparison of total or maximum snow accumulation, as measured by snow water equivalent, to the subsequent spring and summer or snowmelt season runoff over a period of years. The snow water equivalent measured in selected snow courses provides most of the index to the streamflow forecast for the following season. More accurate forecasts are usually obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast procedure. Early season forecasts assume average climatic conditions through the snowmelt season.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions. Soil Conservation Service Reports may be secured from Water Supply Forecasting Unit, Soil Conservation Service, P.O. Box 4170, Portland 8, Oregon.

PUBLISHED BY SOIL CONSERVATION SERVICE

REPORTS	ISSUED	LOCATION	COOPERATING WITH
RIVER BASINS			
Western United States	Monthly (Feb.-May)	Portland, Oregon	All Cooperators
STATES			
Alaska	Monthly (Mar.-May)	Palmer, Alaska	Alaska S.C.D.
Arizona	Semi-Monthly (Jan.15 - Apr.1)	Phoenix, Arizona	Salt R. Valley Water Users Assoc. Ariz. Agr. Exp. Station
Colorado and New Mexico	Monthly (Feb.-May)	Fort Collins, Colorado	Colo. State University Colo. State Engineer N. Mex. State Engineer
Idaho	Monthly (Jan.-June)	Boise, Idaho	Idaho State Reclamation Engineer
Montana	Monthly (Jan.-June)	Bozeman, Montana	Mont. Agr. Exp. Station
Nevada	Monthly (Jan.-May)	Reno, Nevada	Nevada Dept. of Conservation and Natural Resources - Division of Water Resources
Oregon	Monthly (Jan.-June)	Portland, Oregon	Oreg. State University Oregon State Engineer
Utah	Monthly (Jan.-June)	Salt Lake City, Utah	Utah State Engineer
Washington	Monthly (Feb.-June)	Spokane, Washington	Wn. State Dept. of Conservation
Wyoming	Monthly (Feb.-June)	Casper, Wyoming	Wyoming State Engineer

PUBLISHED BY OTHER AGENCIES

REPORTS	ISSUED	AGENCY
British Columbia	Monthly (Feb.-June)	Water Rights Br., Dept. of Lands, Forests and Natural Resources, Parliament Bldg., Victoria, B.C., Canada
California	Monthly (Feb.-May)	Calif. Dept. of Water Resources, P.O. Box 388, Sacramento, Calif.

USDA SCS PORTLAND OREG '962

WATER SUPPLY OUTLOOK
and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
for
OREGON

ISSUED

APRIL 8, 1963

Report prepared by

W. T. FROST, Snow Survey Supervisor

and

BOB L. WHALEY, Assistant Snow Survey Supervisor

SOIL CONSERVATION SERVICE
209 S.W. 5TH AVE., PORTLAND 4, OREGON

Issued by

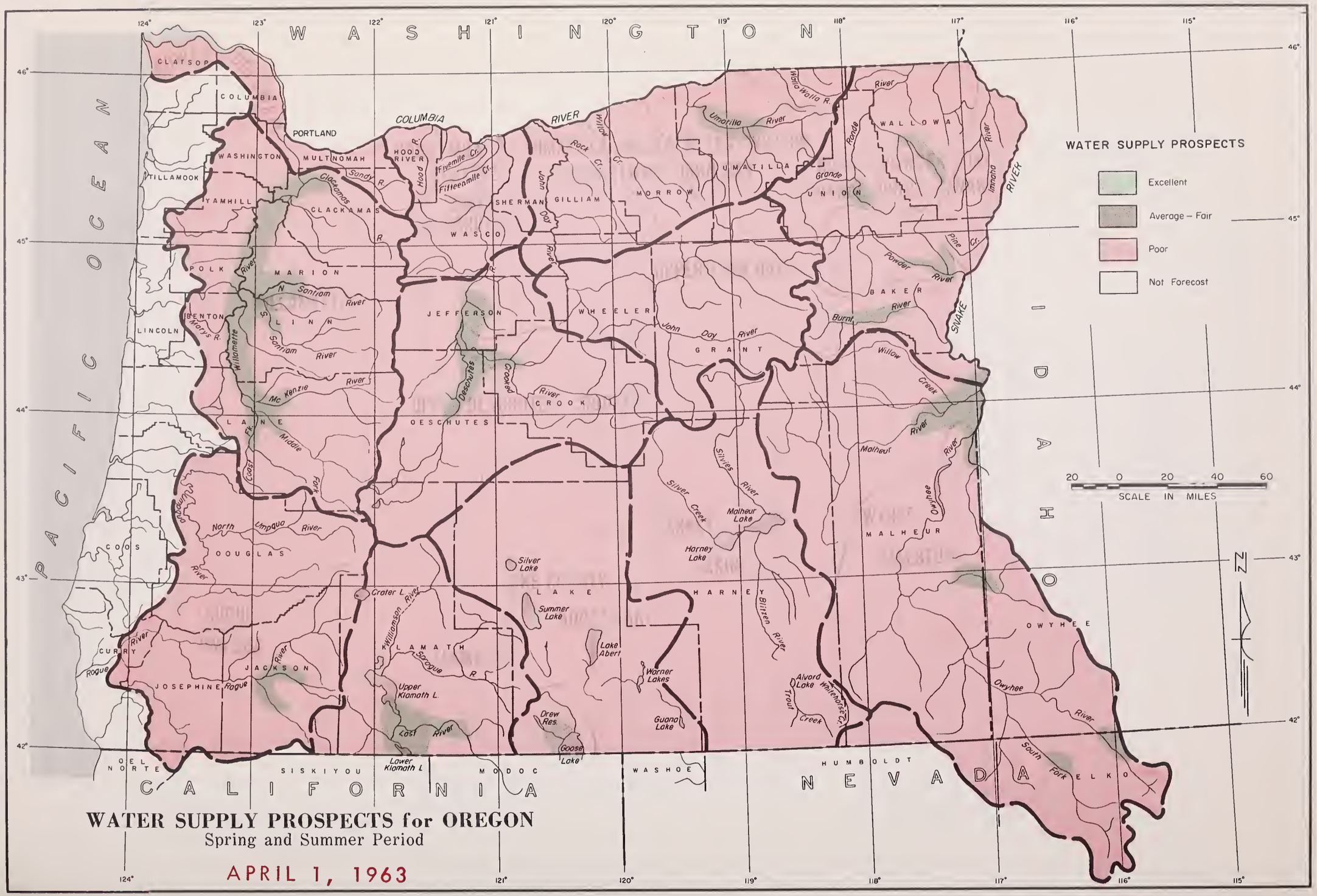
THOMAS P. HELSETH
STATE CONSERVATIONIST
SOIL CONSERVATION SERVICE

F. EARL PRICE
DIRECTOR
OREGON AGRICULTURAL
EXPERIMENT STATION

CHRIS L. WHEELER
STATE ENGINEER
STATE OF OREGON

TABLE OF CONTENTS

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE



WATER SUPPLY PROSPECTS for OREGON

Spring and Summer Period

APRIL 1, 1963

7-0-19102-1-L

WATER SUPPLY OUTLOOK for OREGON

APRIL 1, 1963

Oregon is beginning its 1963 irrigation season with an extremely poor water supply outlook for lands served from direct streamflow. In contrast, most lands served from stored water supplies will have sufficient water for most crops. March storms brought heavy snow to the Cascades and highest areas of Eastern Oregon but failed to make up for the huge deficit in the record-low snowpack. Many reservoirs are likely to be completely drained this season leaving no carry-over water for next year.

SNOW COVER

Water content of the mountain snowpack averages only 27 percent of the April 1 normal snow over the state. Not since 1934 has the snowpack been as "short" as it is this year.

SOIL MOISTURE

Seldom have our state watersheds been as wet as they are this year. Some surface drying is already taking place in the cultivated areas but only in the top few inches.

RESERVOIR STORAGE

Except for stored water supplies, the state would be facing one of the worst irrigation seasons in history. Stored water in 24 major irrigation reservoirs is 94 percent average and 131 percent of last year at this date.

A few reservoirs are sufficiently "short" on storage that lands served from them may have late season shortages. These reservoirs are: Agency Valley, Warmsprings and Antelope in Malheur county; McKay in Umatilla county and Clear Lake in Wasco county. Fish Lake and Fourmile Lake in Jackson county are "short" but additional water may be obtained from the Talent Irrigation District.

STREAMFLOW

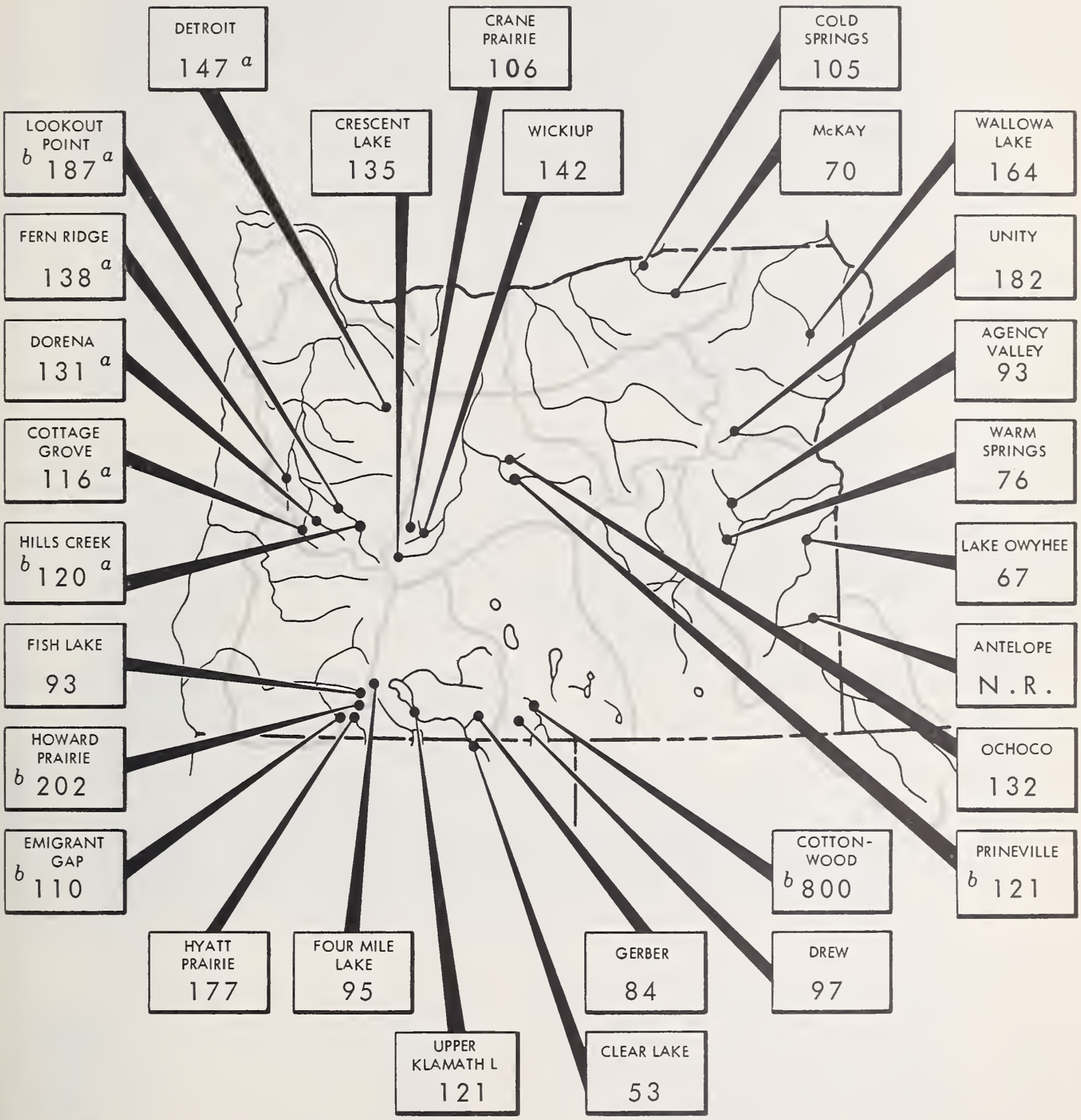
Forecasts of streamflow for the irrigation season, April through September, vary from 15 to 19 percent of average on the Owyhee, Lost River and Silvies on up to 70 percent on the Wallowa River.

Many areas will have streamflow as "short" as in 1961 or 1959 or even shorter. Some of the smaller streams will have less than that.

The water shortage could be partially reduced with summer weather cooler and wetter than normal. However, the above forecasts assume normal conditions of temperature and precipitation in the forecast periods.

STORAGE STATUS of OREGON RESERVOIRS
as percent of 1943-57, 15 year average

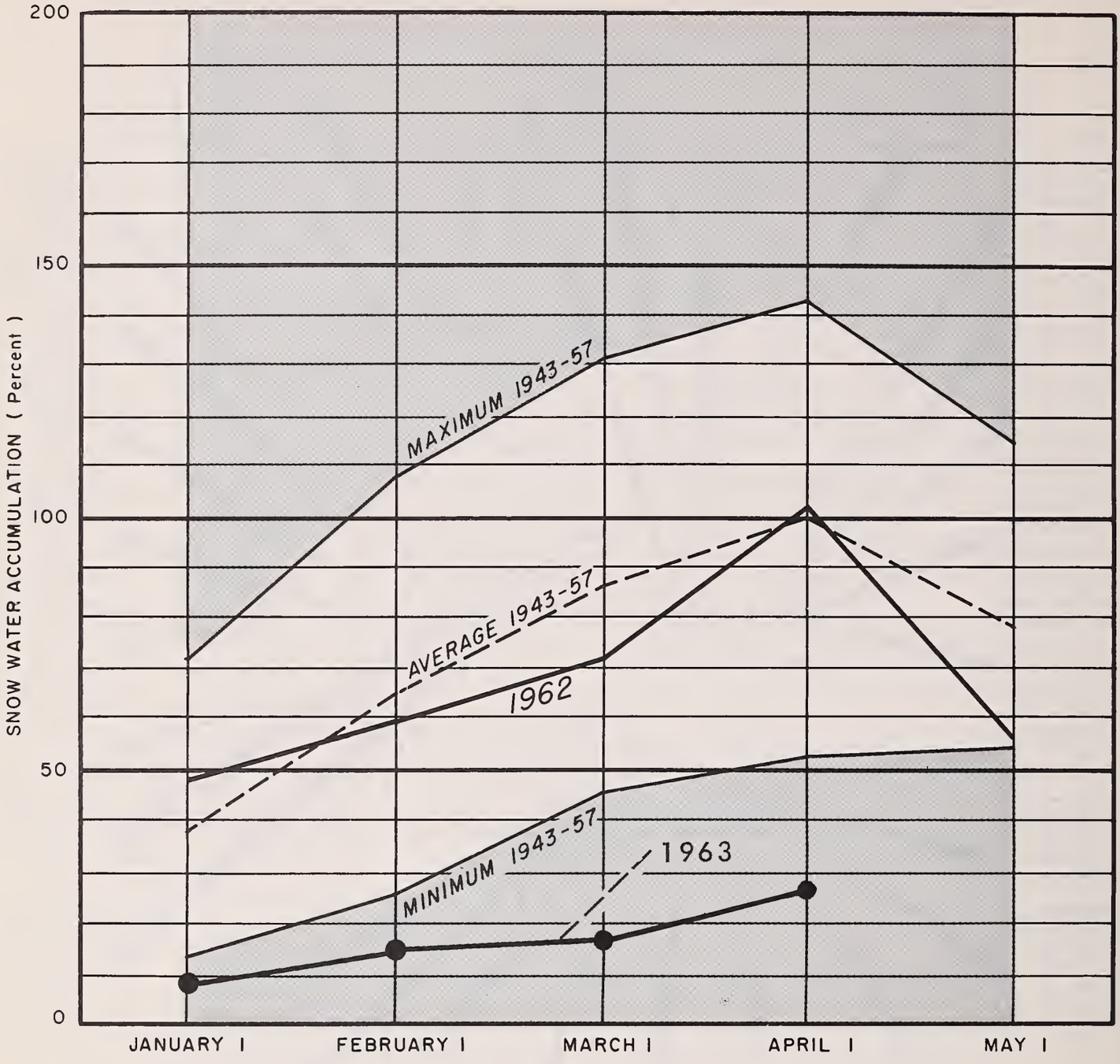
APRIL 1, 1963



(a) Multiple purpose reservoir - space reserved primarily for flood runoff.
(b) Short record - compared with last year on this date.
N.R. - No report.

SNOW WATER ACCUMULATION in OREGON

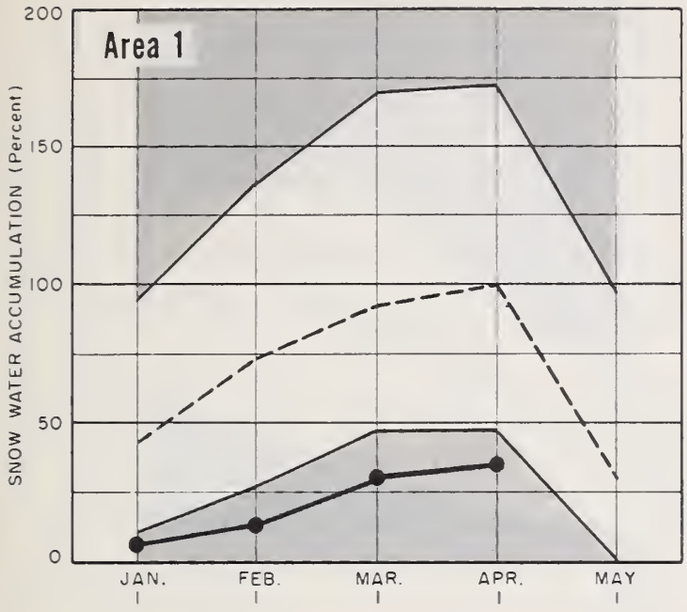
APRIL 1, 1963

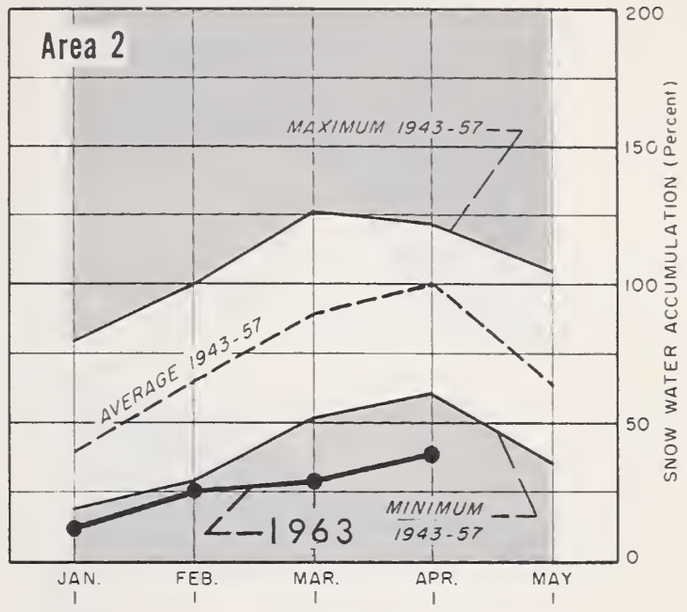


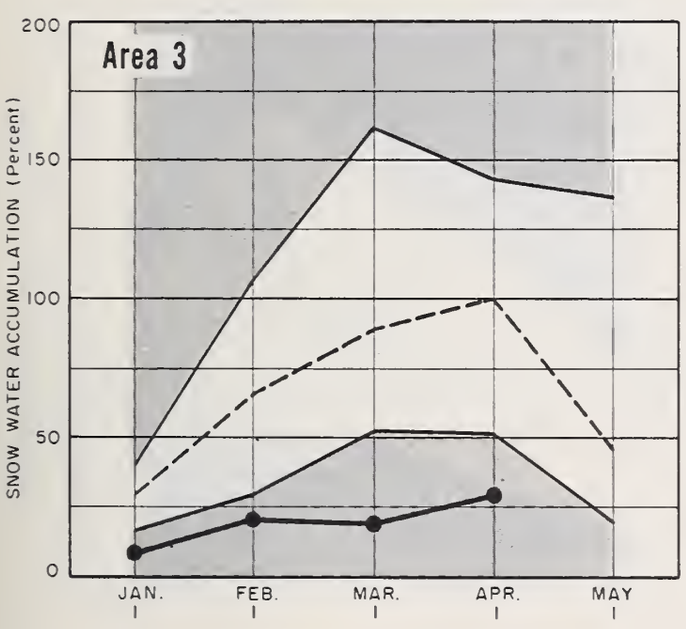
SNOW WATER ACCUMULATION in OREGON

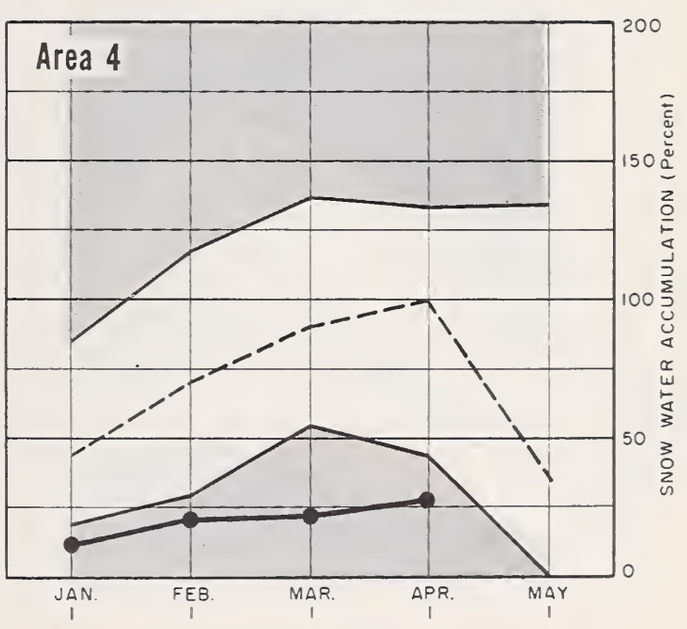
(Percent of average maximum accumulation)

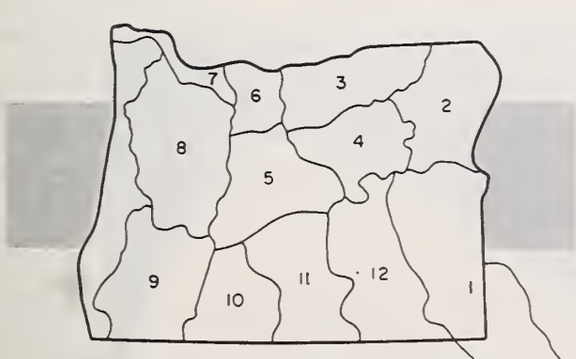
APRIL 1, 1963





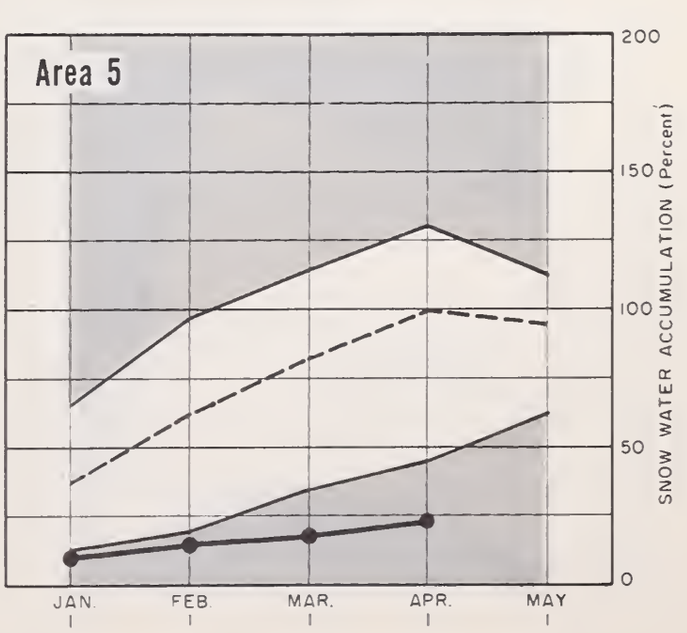






WATERSHED AREA LOCATIONS

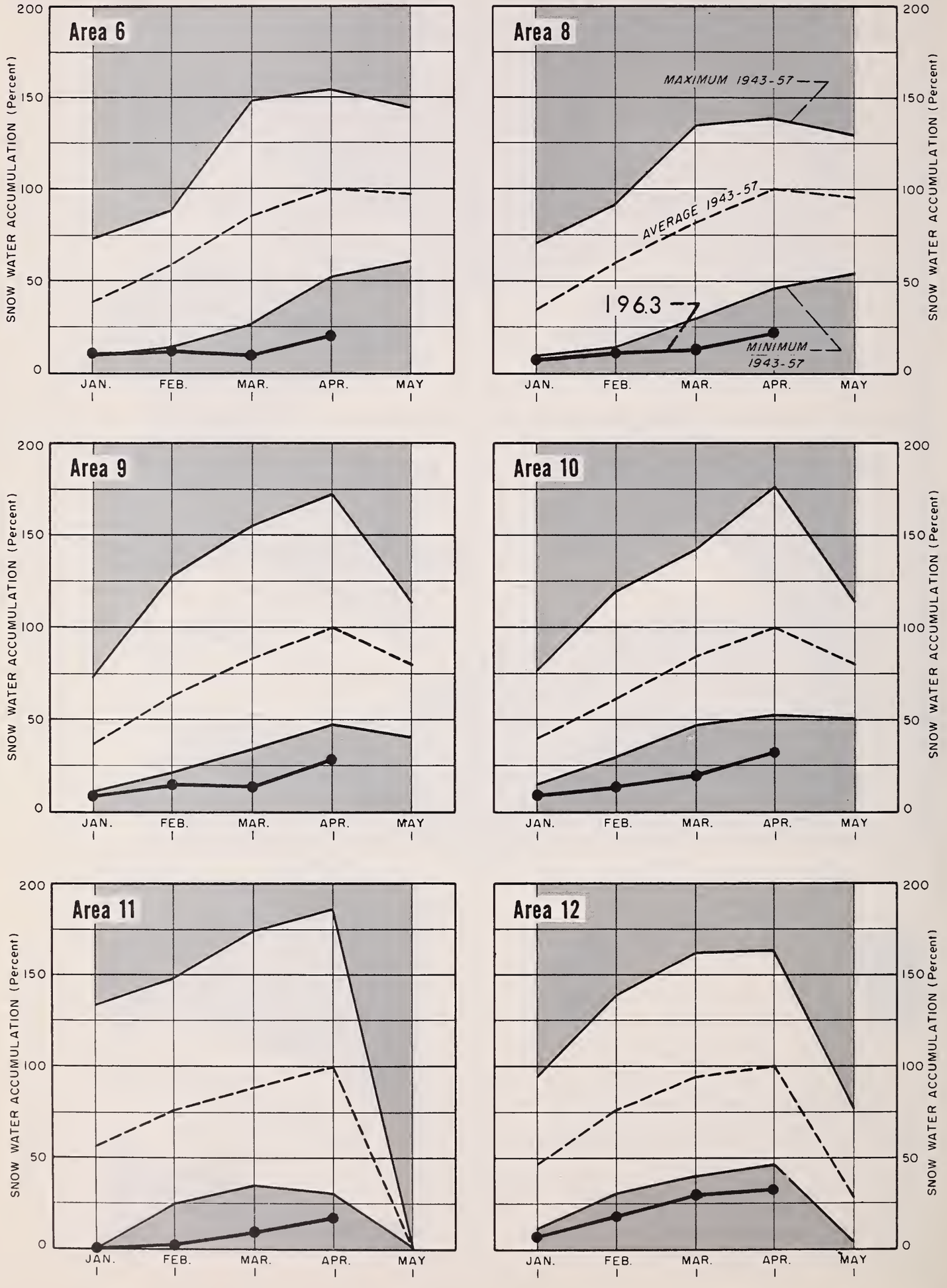
AREA 1 - DWYHEE, MALHEUR WATERSHEDS
AREA 2 - BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS
AREA 3 - UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS
AREA 4 - UPPER JOHN DAY WATERSHEDS
AREA 5 - UPPER DESCHUTES, CROOKED, WATERSHEDS
AREA 6 - HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS
AREA 7 - LOWER COLUMBIA WATERSHEDS
AREA 8 - WILLAMETTE WATERSHEDS
AREA 9 - ROGUE, UMPQUA WATERSHEDS
AREA 10 - KLAMATH WATERSHEDS
AREA 11 - LAKE COUNTY, GOOSE LAKE WATERSHEDS
AREA 12 - HARNEY BASIN WATERSHEDS



SNOW WATER ACCUMULATION in OREGON

(Percent of average maximum accumulation)

APRIL 1, 1963



MOUNTAIN SOIL MOISTURE in OREGON
as percent of capacity
APRIL 1, 1963

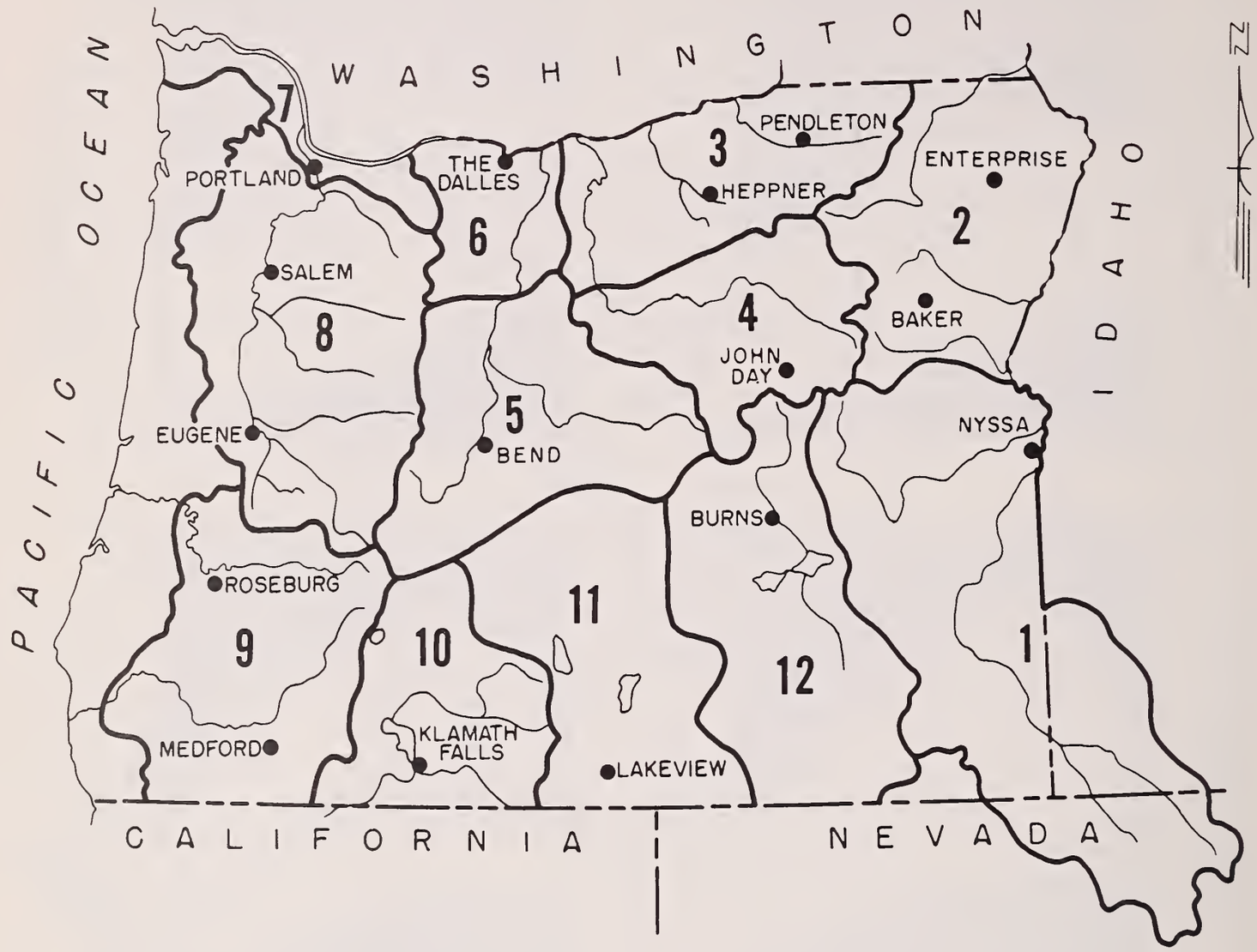
● Soil Moisture Station

**Moisture studies not yet developed in these areas.*

NOTE: The soil moisture figures published herein are not comparable to those published last year and earlier due to a change in the scale of evaluation. The new figures represent total moisture in the soil rather than moisture available to plants.

VALLEY PRECIPITATION in OREGON [a]

APRIL 1, 1963

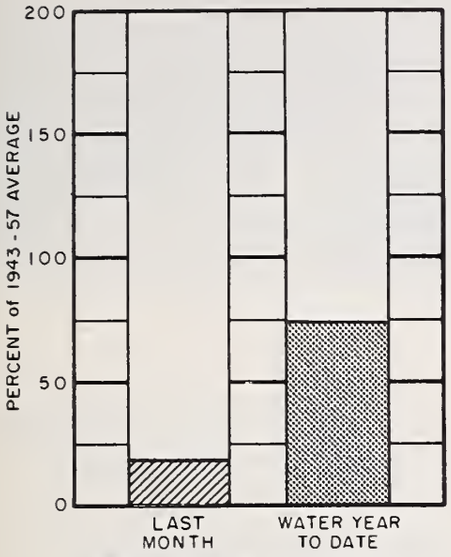


PRECIPITATION as PERCENT of the 1943-57 AVERAGE					
STATION	LAST MONTH	WATER YEAR TO DATE [b]	STATION	LAST MONTH	WATER YEAR TO DATE [b]
Baker	81	123	Lakeview	83	151
Bend	96	100	Medford Apt.	52	128
Burns	126	130	Nyssa	22	101
Enterprise	66	108	Pendleton Apt.	34	99
Eugene Apt	158	90	Portland Apt.	114	84
Heppner	37	102	Roseburg Apt.	99	80
John Day	57	127	Salem Apt.	137	83
Klamath Falls	46	95	The Dalles	96	84

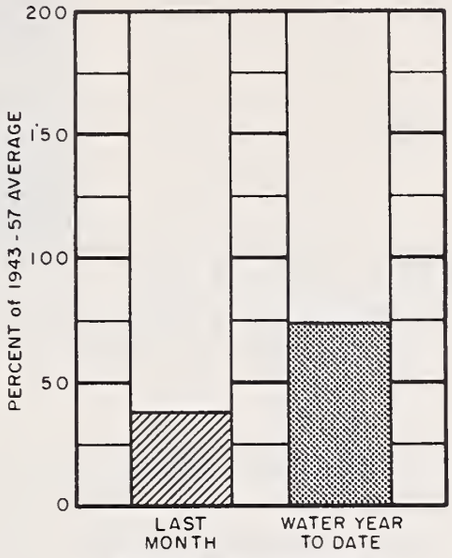
(a) Preliminary data furnished by the U.S. Weather Bureau. (b) Oct. 1 to date. (c) Report delayed.

CURRENT OREGON STREAMFLOW

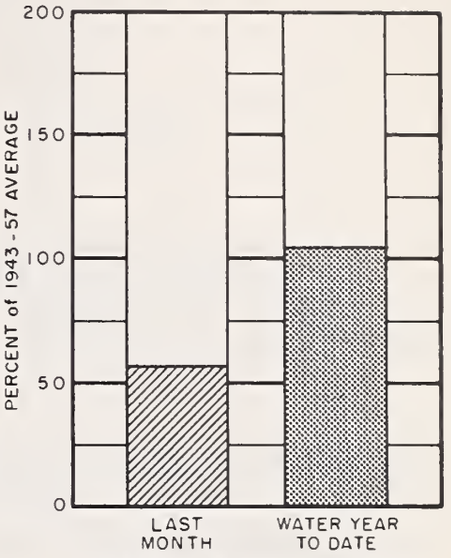
APRIL 1, 1963



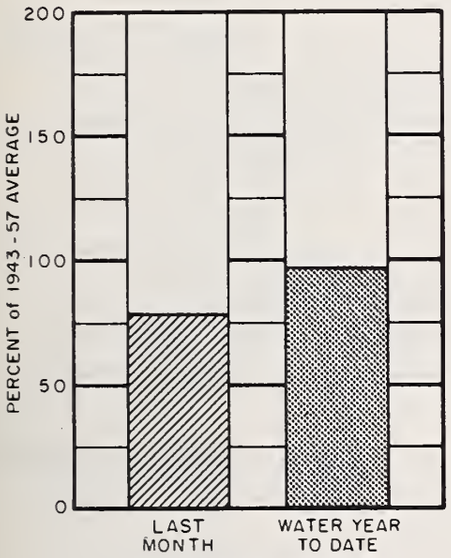
Owyhee Lake net inflow



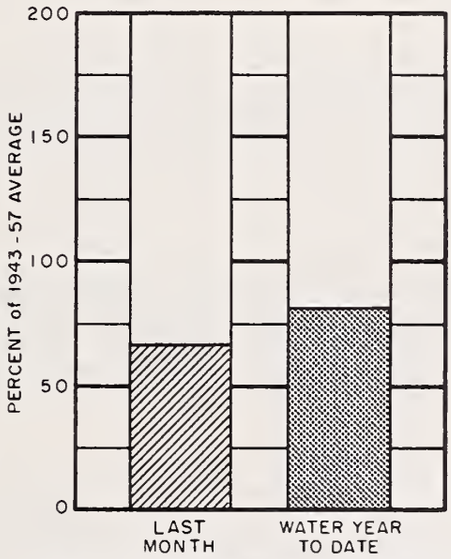
Umatilla near Umatilla



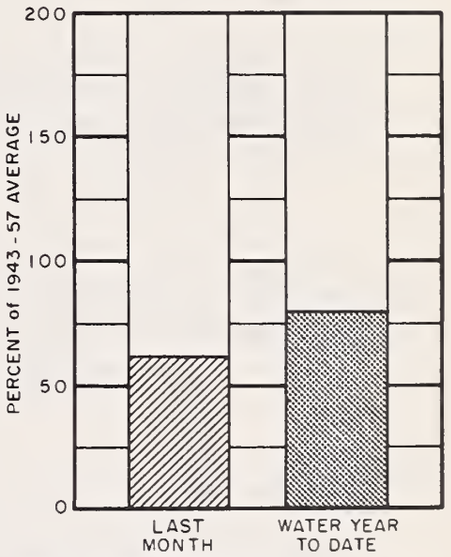
John Day at Service Creek



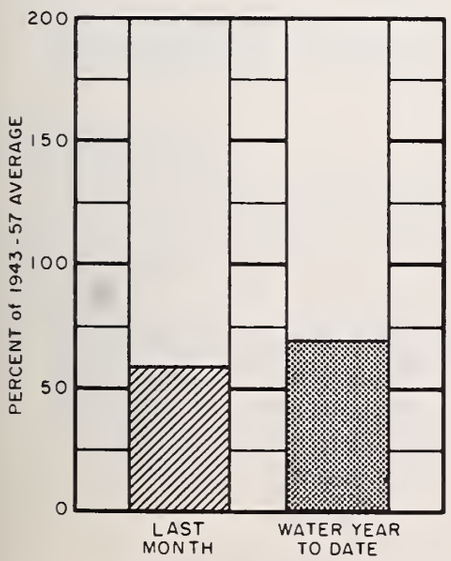
Deschutes at Moody



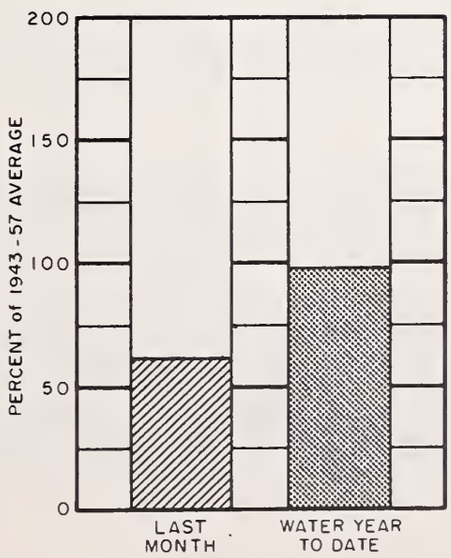
Hood and conduit near Hood River



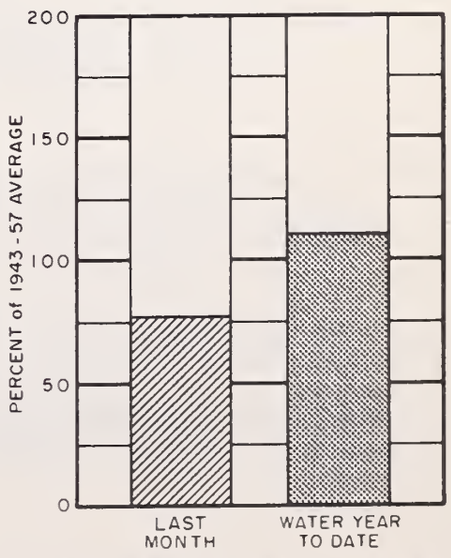
Mid. Fk. Willamette below No. Fk.



Umpqua near Elkton



Rogue at Raygold



Upper Klamath Lake net inflow

Data furnished by U.S. Geological Survey; The Pacific Power and Light Co.; and North and South Boards of Control Owyhee Project.

WATER SUPPLY OUTLOOK
OWYHEE, MALHEUR WATERSHEDS
OREGON

as of
APRIL 1, 1963

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Malheur County begins the 1963 irrigation season with prospective streamflows that will be lower than in any year since 1934. However, lands served from stored water supplies have a chance for a reasonably satisfactory season. All other lands, dependent upon natural streamflow, may possibly have only one irrigation.

SNOW COVER

Water content of the mountain snowcover is 17 percent of the April 1 average on the Malheur and 26 percent average on the Owyhee. This record-low snowpack will be long remembered.

SOIL MOISTURE

The one bright spot in the whole water supply picture is reservoired water supplies and the large amount of moisture that is now present in the soil mantle on the upper watersheds. Soils are now re-charged up to 83 percent of total capacity.

RESERVOIR STORAGE

Stored water supplies in the Owyhee are 363,000 acre feet compared with 241,600 a.f. one year ago. Near Jordan Valley, the Antelope Reservoir has 15,400 acre feet in storage, about the same as last year but below the average of 18,300 acre feet.

Warmsprings held 83,800 acre feet on April 1 and Agency Valley had 42,400 a.f. at the same time. This is well above the supply available a year ago.

STREAMFLOW

April-September inflow to Owyhee is forecast at 65,000 acre feet or 15 percent of average. Coupled with storage water and pumping, this should provide for a near average season.

Malheur River near Drewsey is forecast to flow 24,000 a.f. and the North Fork at Beulah 23,000 acre feet April through September. With storage added, these forecasts indicate the total water available to the Vale-Oregon and Warmsprings Districts may reach 173,000 acre feet. This is short of the 185 to 190,000 acre feet that is desirable.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE · PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Boulder Creek	Fair	Poor
Bully Creek	Poor	Poor
Cow Creek	Poor	Poor
Jordan Creek	Fair	Poor
Jordan Valley Irrig. Dist.	Fair	Fair
McDermitt Creek	Poor	Poor
Oregon Canyon Creek	Poor	Poor
Owyhee Project	Average	Average
Succor Creek	Poor	Poor
Tenmile Creek	Poor	Poor
Vale Oregon Irrig. Dist.	Fair	Fair
Warmsprings Irrig. Dist.	Fair	Fair
Willow Creek (Reservoired)	Fair	Fair

RESERVOIR STORAGE (1,000 Ac. Ft.) April 1, 1963

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Agency Valley	60.0	42.4	29.8	45.4
Antelope	55.0	15.4	15.2	18.3
Owyhee	715.0	362.9	241.6	539.0
Warmsprings	191.0	83.8	57.2	110.7

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of April 1, 1963

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
2140	Malheur near Drewsey	24	April-Sept.	81	30
		23	April-July	80	29
2175	Malheur, North Fork at Beulah[d]	23	April-Sept.	64	36
1825	Owyhee Reservoir net Inflow[g]	65	April-Sept.	430	15
		62	April-July	412	15

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Bear Creek (Nev.)	7800	72	16.9	4-1-63	7.8	9.6	8.6[i]
Big Bend (Nev.)	6700	48	16.7	3-27-63	15.6	14.9	15.0
Blue Mountain Springs	5900	42	16.9	3-26-63	13.5	9.7	13.0
Crane Prairie	5375	48	18.2	3-26-63	16.2	14.0	16.0
Folly Farm	4450	30	12.5	3-28-63	9.9	- -	- -
Jack Creek, Lower (Nev.)	6800	48	8.7	3-29-63	8.3	8.5	8.6
Jordan Valley	4250	48	19.3	3-27-63	16.7	- -	- -
Mud Flat, (Ida.)	5500	48	12.8	4-2-63	10.5	8.5	9.7
Rodeo Flat (Nev.)	6800	42	11.0	3-27-63	11.0	11.0	11.0
Stinking Water Summit	4800	48	21.9	3-28-63	21.5	- -	- -
Taylor Canyon (Nev.)	6200	48	15.1	3-29-63	12.6	14.8	13.4
Triangle (Ida.)	5150	48	16.2	4-2-63	14.4	- -	- -

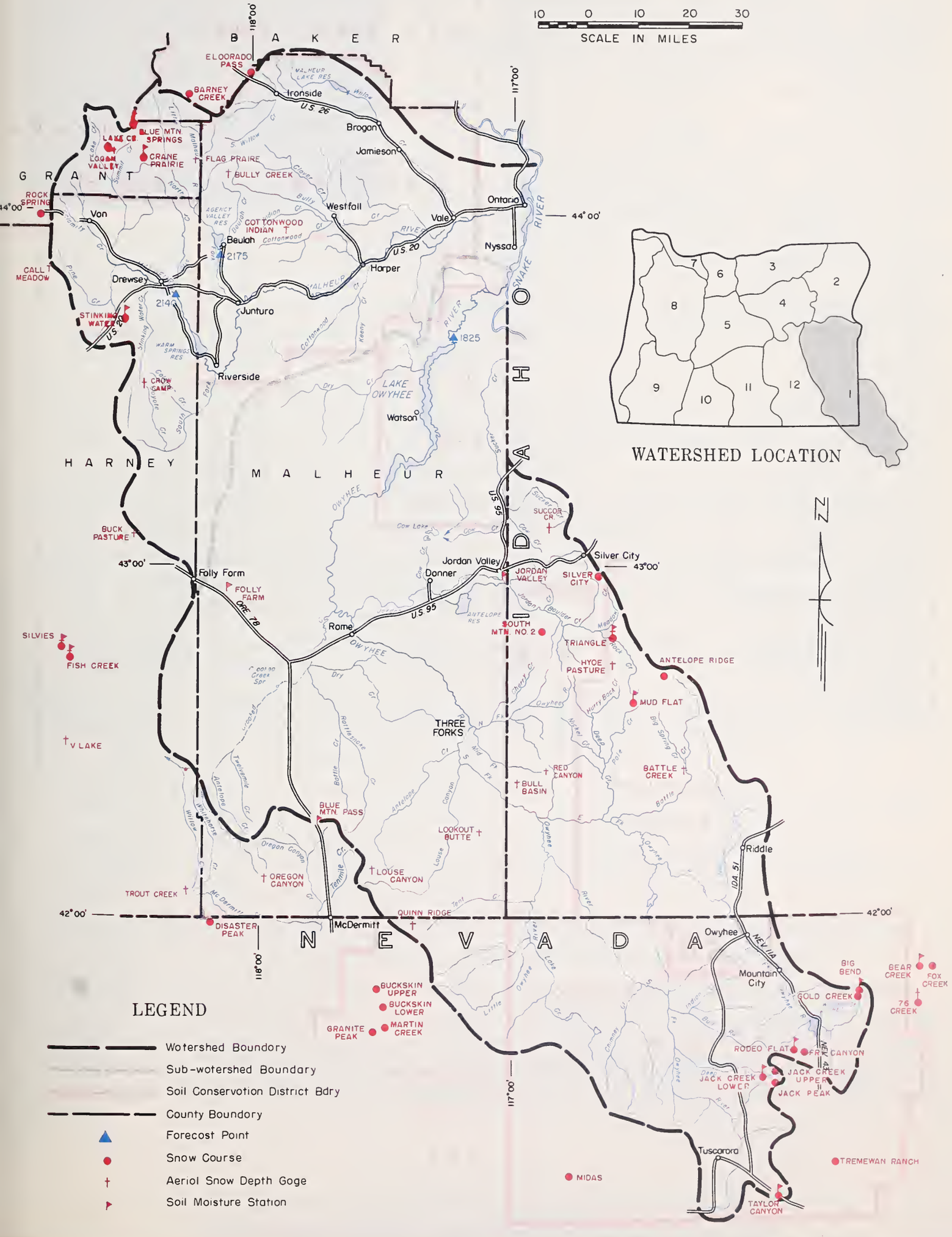
NOTE: The soil moisture figures published herein are not comparable to those published last year and earlier due to a change in the scale of evaluation. The new figures represent total moisture in the soil rather than moisture available to plants.

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	WATER CONTENT (Inches) 1943-57 AVERAGE
Antelope Ridge (Ida.)	5900	4/2	T	T	6.5	- -
Barney Creek	5950	3/25	4	1.6	11.0	8.6*
Battle Creek[e] (Ida.)	5700	4/3	0	0.0	2.3	- -
Bear Creek (Nev.)	7800	3/26	44	12.9	24.3	21.5*
Big Bend (Nev.)	6700	3/27	T	T	13.6	10.5
Blue Mountain Springs	5900	3/26	19	7.4	17.1	16.9
Buck Pasture[e]	5700	4/3	1	0.2	4.1	- -

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) USBR records of inflow. (h) Not surveyed. (i) Nearest current data. (j) Partly estimated. (*) 1943-57 Adjusted average.

OWYHEE, MALHEUR WATERSHEDS



SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1943-57 AVERAGE
Buckskin, Lower (Nev.)	6700	3/26	0	0.0	11.7	8.5*
Buckskin, Upper (Nev.)	7200	3/26	5	2.4	15.6	9.2*
Bull Basin[e] (Ida.)	5600	4/3	0	0.0	1.1	- -
Bully Creek[e]	5300	4/3	0	0.0	2.6	- -
Call Meadows[e]	5340	4/3	0	0.0	6.1	- -
Cottonwood-Indian[e]	4320	4/3	0	0.0	0.0	- -
Crane Prairie	5375	3/26	0	0.0	9.0	9.8
Crow Camp[e]	5500	4/3	1	0.2	- -	- -
Disaster Peak (Nev.)	6500	3/27	T	T	18.8	11.5*
Eldorado Pass	4600	3/31	0	0.0	1.1	- -
Fish Creek	7900	3/26	49	16.2	26.6	28.0*
Flag Prairie[e]	4750	4/3	0	0.0	3.2	- -
Fox Creek (Nev.)	6800	3/26	6	1.4	12.9	9.1*
Fry Canyon (Nev.)	6700	3/27	0	0.0	9.4	9.2
Gold Creek (Nev.)	6600	3/27	0	0.0	8.4	6.0
Granite Peak (Nev.)	7800	3/27	32	10.4	19.7	11.2*
Hyde Pasture[e] (Ida.)	5800	4/3	T	T	4.6	- -
Jack Creek, Lower (Nev.)	6800	3/29	T	T	5.5	2.5
Jack Creek, Upper (Nev.)	7250	3/29	14	3.4	14.7	10.9
Jack Peak (Nev.)	8420	3/29	53	14.7	36.4	- -
Lake Creek	5120	3/26	0	0.0	9.8	11.2
Logan Valley	5100	3/26	0	0.0	7.5	- -
Lookout Butte[e]	5650	4/3	0	0.0	0.0	- -
Louse Canyon[e]	6440	4/3	1	0.2	4.2	- -
Martin Creek (Nev.)	6700	3/27	0	0.0	15.2	8.5*
Midas (Nev.)	7200	3/29	0	0.0	10.2	1.9*
Mud Flat (Ida.)	5500	4/2	1	0.2	4.8	- -
Oregon Canyon[e]	6950	4/3	1	0.2	11.2	- -
Quinn Ridge[e] (Nev.)	6300	4/3	0	0.0	3.8	- -
Red Canyon[e] (Ida.)	6500	4/3	1	0.2	9.1	- -
Rock Spring	5100	3/28	T	T	5.4	4.9
Rodeo Flat (Nev.)	6800	3/27	T	T	6.8	8.7
76 Creek[e] (Nev.)	7100	3/27	11	3.9	17.3	15.7*
Silver City (Ida.)	6400	4/2	4	0.8	18.9	17.5*
Silvies	6900	3/26	8	3.0	18.4	14.4*
South Mountain #2 (Ida.)	6340	3/30	2	0.3	14.8	12.1*
Stinking Water	4800	3/27	0	0.0	3.6	0.7*
Succor Creek[e] (Ida.)	6100	4/3	T	T	8.4	- -
Taylor Canyon (Nev.)	6200	3/29	0	0.0	4.8	3.5
Tremewan Ranch (Nev.)	5700	3/27	0	0.0	0.0	0.8
Triangle (Ida.)	5150	4/2	T	T	0.0	- -
Trout Creek[e]	7800	4/3	18	6.0	12.6	- -
"V" Lake[e]	6600	3/25	0	0.0	7.1	- -

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS
OREGON

as of
APRIL 1, 1963

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK - The 1963 irrigation season is beginning in Baker, Union and Wallowa counties with the poorest water supply outlook since 1944. Sufficient water will be available only to those lands served from reservoirs.

SNOW COVER - March storms were especially heavy at the end of the month but did not add enough snow to reduce the huge deficit in the snowpack which is record low. Water content of present snow is 55 percent of average for the April 1 date in the Wallowas and 31 percent average in the Blue and Elkhorn mountains.

SOIL MOISTURE - Moisture has continued to accumulate in the soil mantle on the upper watersheds and has now reached 88 percent of total capacity.

RESERVOIR STORAGE - Unity Reservoir on Burnt River now holds 24,700 acre feet compared with 15,800 a.f. on April 1 last year and is expected to fill soon. Drawdown will probably begin earlier than usual this year.

Wallowa Lake now holds 26,400 acre feet compared with 14,600 a.f. one year ago. Inflow this year will be about the same as in 1961.

STREAMFLOW - Preliminary records from the U. S. Geological Survey at LaGrande indicate that March runoff in the Northeastern Oregon area has varied from 52 percent average on the Grande Ronde to 68 percent average on Catherine Creek.

Forecast of Burnt River inflow to Unity Reservoir is 12,000 acre feet or 27 percent average (1943-57) for the six months, April - September. This will be an extremely "short" supply except where water users have stored supplies. Powder River, with a slightly higher watershed, is forecast at 27,000 a.f. or 41 percent average and shortages will begin very early in the season for some water users.

The main Grande Ronde River at LaGrande is forecast at 90,000 acre feet or 45 percent average for April through September with water shortages for many water users.

East Fork Wallowa is forecast at 70 percent average but Wallowa Lake water is expected to provide a reasonable supply for this season if carefully used; Hurricane Creek is forecast at 63 percent average; the Lostine at 71 percent and Bear Creek at 70 percent of average with shortages developing inllate July on these streams; the Imnaha is forecast at 68 percent average for the April-September period but should be a satisfactory supply for lands it serves.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Alder Slope	Fair	Poor
Baker Valley	Fair	Poor
Big Creek	Fair	Poor
Clover Cr. (nr. No. Powder)	Fair	Poor
Cove	Fair	Poor
Durkee	Fair	Poor
Eagle Valley	Fair	Poor
Elgin	Fair	Poor
Enterprise-Joseph	Average	Fair
Hereford-Bridgeport	Average	Fair
Imnaha River	Fair	Fair
LaGrande-Island City	Fair	Poor
Lostine-Wallowa	Fair	Poor
No. Powder River-Wolf Cr.	Fair	Poor
Pine Valley	Fair	Poor
Powder River-Elk Creek	Fair	Poor
Summerville	Fair	Poor
Sumpter Valley	Fair	Poor
Union-Hot Lake	Fair	Poor
Unity	Fair	Poor

RESERVOIR STORAGE (1,000 Ac. Ft.) April 1, 1963

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Unity	25.2	24.7	15.8	13.6
Wallowa Lake	37.5	26.4	14.6	16.1

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of April 1, 1963

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
3305	Bear near Wallowa	52	April-Sept.	74	70
2730	Burnt near Hereford[d]	12	April-Sept.	45	27
		11	April-June	41	27
3200	Catherine near Union	45	April-Sept.	73	62
3190	Grande Ronde at La Grande	90	April-Sept.	202	45
		88	April-July	199	44
3295	Hurricane near Joseph	31	April-Sept.	49	63
2920	Imnaha at Imnaha	212	April-Sept.	314	68
3399	Lostine near Lostine	95	April-Sept.	133	71
2755	Powder near Baker	27	April-Sept.	66	41
		26	April-July	65	40
3250	Wallowa, East Fork near Joseph[d]	8.5	April-Sept.	12.1[i]	70
		6.8	April-July	9.7	70

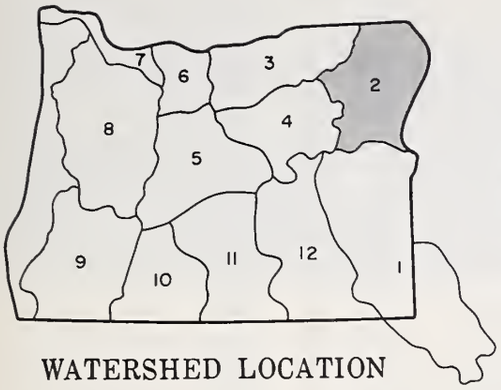
SOIL MOISTURE

STATION NAME	STATION ELEVATION	PROFILE (Inches) DEPTH	PROFILE (Inches) CAPACITY	SOIL MOISTURE (Inches) DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Blue Mountain Summit	5100	36	16.8	3-26-63	13.3	7.4	11.6
Emigrant Springs	2925	48	22.3	3-27-63	20.7	21.2	22.0
Tollgate	5070	48	22.2	3-28-63	20.2	19.4	21.0

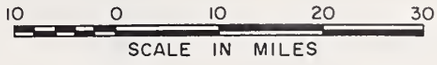
NOTE: The soil moisture figures published herein are <u>not</u> comparable to those published last year and earlier due to a change in the scale of evaluation. The new figures represent total moisture in the soil rather than moisture available to plants.

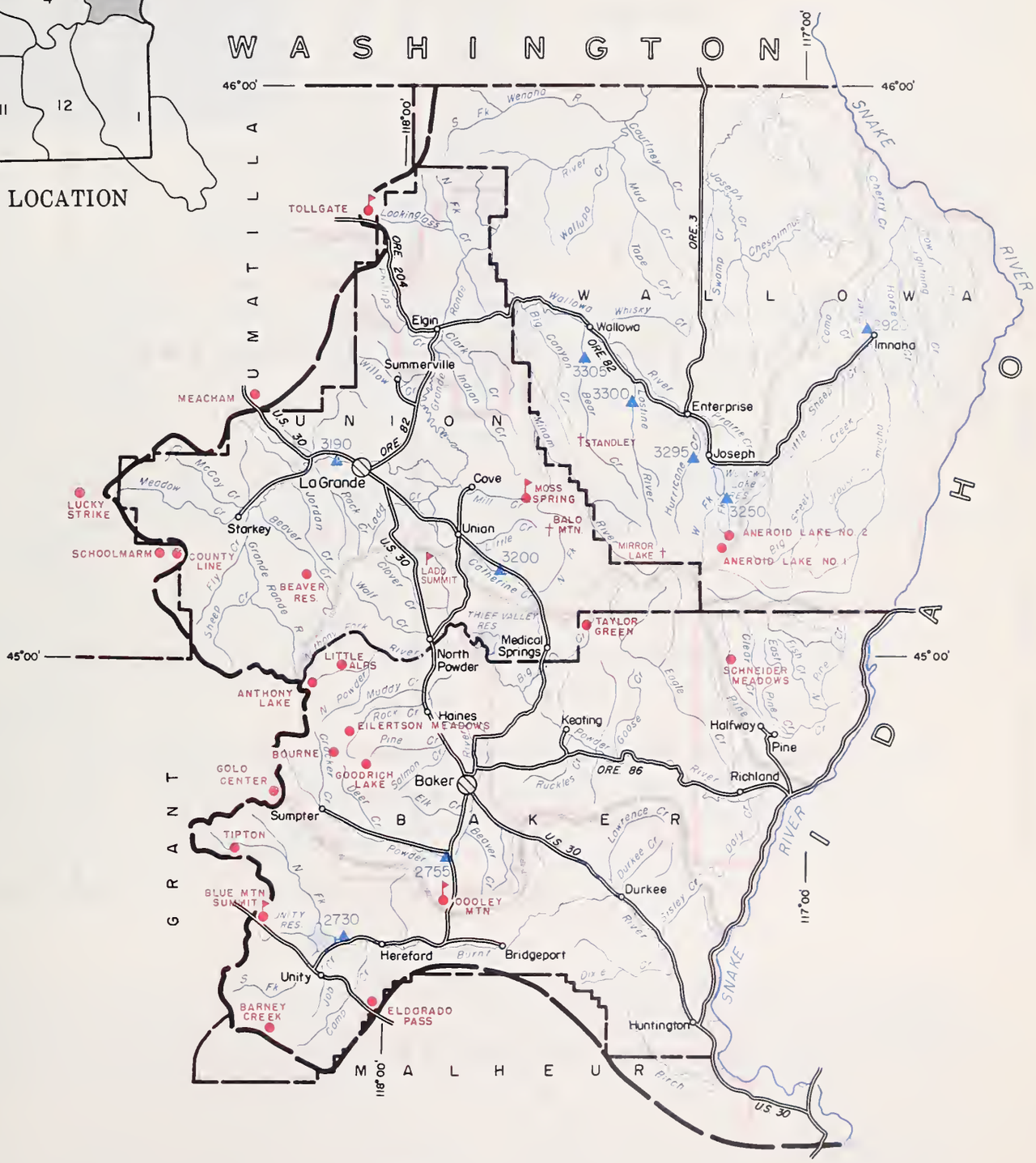
(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Water content partly estimated. (h) Not surveyed. (i) Nearest current data. (j) Partly estimated. (*) 1943-57 Adjusted averages.

BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS



WATERSHED LOCATION





LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- ▲ Forecast Point
- ● Snow Course
- ⚑ Soil Moisture Station
- † Aerial Snow Depth Gage

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1943-57 AVERAGE
Aneroid Lake #1	7480	3/31	99	27.0	42.0	39.4
Aneroid Lake #2	7000	3/30	76	21.1	32.8	30.4
Anthony Lake	7125	3/25	55	16.3	29.4	30.5
Bald Mountain [e] (Ore.)	6700	3/31	52	16.6	34.4	- -
Barney Creek	5950	3/25	4	1.6	11.0	8.6*
Beaver Reservoir	5340	3/28	17	7.2	13.5	13.0
Big Sheep [e]	6200	3/26	24	7.7	- -	- -
Blue Mountain Summit	5098	3/26	4	1.5	10.2	8.9
Bourne	5800	3/28	14	5.2	17.3	17.7
County Line	4800	3/30	0	0.0	6.4	8.6*
Dooley Mountain	5430	3/29	1	0.1	10.5	9.2
Eilertson Meadows	5400	3/22	2	0.8	10.2	12.2
Eldorado Pass	4600	3/31	0	0.0	1.1	- -
Gold Center	5340	3/28	3	1.5	15.2	13.3
Goodrich Lake	6775	3/19	57	19.4	45.0	38.2*
Little Alps	6200	3/25	20	5.6	18.3	- -
Lucky Strike	5050	3/26	23	7.8	14.1	14.3*
Meacham	4300	3/27	0	0.0	10.2	10.4
Mirror Lake [e]	8200	3/26	141	45.1	- -	- -
Moss Spring	5850	3/29	26	8.7	25.2	26.2
Schneider Meadows	5400	3/28	46	16.3	37.2	31.2
Schoolmarm	4775	3/30	0	0.0	5.2	6.4*
Standley [e]	7400	3/26	55	17.6	37.7	- -
Taylor Green	5740	3/27	19	6.5	17.6	18.0
Tipton	5100	3/26	4	2.0	11.8	11.0*
Tollgate	5070	3/28	21	9.6	25.6	30.5
TV Ridge [e]	5670	3/26	0	0.0	- -	- -

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS
OREGON

as of
APRIL 1, 1963

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1963 irrigation season in the Umatilla-Walla Walla watersheds will have water supplies greatly below average where water users depend on natural streamflow. Lands served from stored water supplies are more likely to have a nearly adequate water season.

SNOW COVER

March storms failed to produce sufficient new snow to reduce the huge deficit in the record-low snowpack. Water content of the mountain snowcover is only 24 percent of the April 1 average.

SOIL MOISTURE

Moisture in the upper watershed soils is still 90 percent of the total capacity.

RESERVOIR STORAGE

Stored water in Cold Springs Reservoir is up to the peak capacity of 50,000 acre feet, the same as last year. Drawdown may have to come earlier than usual with spring weather early as it is. McKay Reservoir storage has increased to 39,700 acre feet compared with 35,000 a.f. on April 1 last year. This is only 70 percent of the average April 1 storage and will likely be insufficient for all normal uses.

STREAMFLOW

Flow of streams is forecast between 40 and 60 percent of average for the irrigation season. South Fork of the Walla Walla is forecast at 46,000 acre feet or 60 percent of the April-September average. The Umatilla at Pendleton is forecast at 95,000 acre feet or 51 percent of the April-September period.

Flow of McKay Creek is forecast at 15,000 April through July or 48 percent average.

Butter Creek near Pine City has already made most of its flow but is expected to discharge about 3,900 acre feet or 40 percent average April through July.

The above forecasts assume normal conditions of temperature and precipitation during the forecast period.

Report prepared by
W.T. FROST AND BOB L. ARNEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Birch Creek	Fair	Poor
Butter Creek	Fair	Poor
Dry Creek	Fair	Poor
Dugger Creek	Fair	Poor
Johnson Creek	Fair	Poor
McKay Creek	Fair	Poor
Mill Creek	Fair	Poor
Mud Creek	Fair	Poor
Pine Creek	Fair	Poor
Rhea Creek	Fair	Poor
Rock Creek	Fair	Poor
Umatilla R. (Cold Springs Res.)	Fair	Fair
Umatilla R., Main	Fair	Poor
Umatilla River (McKay Res.)	Fair	Fair
Walla Walla River, Little	Fair	Poor
Walla Walla River, Main	Fair	Poor
Walla Walla River, N. Fork	Fair	Poor
Walla Walla River, S. Fork	Fair	Poor
Willow Creek	Fair	Poor

RESERVOIR STORAGE (1,000 Ac. Ft.) April 1, 1963

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Cold Springs	50.0	50.0	50.0	47.5
McKay	73.8	39.7	35.0	56.8

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of April 1, 1963

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
0320	Butter Creek near Pine City	3.9	April-July	9.7	40
0225	McKay near Pilot Rock	15.0	April-July	31	48
0200	Umatilla near Gibbon	50	April-Sept.	96	52
0210	Umatilla at Pendleton	95	April-Sept.	187	51
		92	April-July	182	51
0100	Walla Walla, South Fork near Milton	46	April-Sept.	76	60
		38	April-July	62	62

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Athena-Weston	1700	48	18.7	3-27-63	14.8	16.8	13.5
Battle Mountain Summit	4340	48	13.8	3-26-63	13.5	11.6[g]	13.0
Emigrant Springs	3925	48	22.3	3-27-63	20.7	21.2	22.0
Tollgate	5070	48	22.2	3-28-63	20.2	19.4	21.0

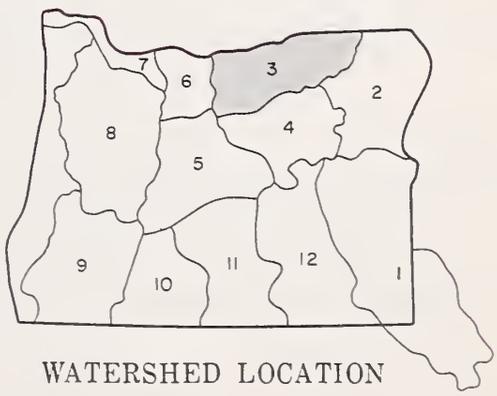
NOTE: The soil moisture figures published herein are not comparable to those published last year and earlier due to a change in the scale of evaluation. The new figures represent total moisture in the soil rather than moisture available to plants.

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Nearest current data. (h) Partly estimated. (*) 1943-57 adjusted average. (**) Average for 5 or more years in base period.

UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Soil Moisture Station



WATERSHED LOCATION

Umatilla, Walla Walla, Willow, Rock, Lower John Day Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1943-57 AVERAGE
Arbuckle Mountain	5400	3/25	0	0.0	15.1	12.1
Battle Mountain Summit	4340	3/26	0	0.0	4.0	- -
Blue Mountain Camp	4300	3/28	0	0.0	- -	- -
Emigrant Springs	3925	3/27	0	0.0	3.6	6.5
Lucky Strike	5050	3/26	23	7.8	14.1	14.3*
Meacham	4300	3/27	0	0.0	10.2	10.4
Tollgate	5070	3/28	21	9.6	25.6	30.5
Weston Mountain	2700	3/28	0	0.0	- -	- -

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
UPPER JOHN DAY WATERSHEDS
OREGON

as of

APRIL 1, 1963

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Irrigation for the 1963 season is already underway in the John Day watersheds and most irrigators will find their water supplies greatly reduced from the usual amounts with conditions worse than any experienced since 1944. All possible steps should be taken to get the maximum benefit from water use. The few water users who have storage for supplemental water will find this water very valuable this year.

SNOW COVER

March storms contributed snow mainly at high elevations but did not reduce the huge deficit in the snowpack which is still record low. Water content of present snow cover is only 27 percent of the April 1 average.

SOIL MOISTURE

Moisture has continued to accumulate in the soil mantle on the upper watersheds and has now reached 86 percent of total capacity. This moisture is very favorable to coming runoff.

STREAMFLOW

Flow of the John Day River* at Service Creek has been 57 percent average during March and declined to about 43 percent average toward the end of the month.

Forecasts for the April-September streamflow in the John Day area have been slightly lowered since last month and are as follows: Flow of John Day at Prairie City is forecast at 22,000 acre feet or 41 percent of average. The 1961 flow was 25,400 a.f. Strawberry Creek, a tributary of the main John Day near Prairie City, is forecast at 4,500 acre feet or 49 percent average. The 1961 flow was considerably greater at 6,395 a.f.

Flow of the Middle Fork of John Day at Ritter is forecast at 55,000 acre feet or 41 percent average compared with a measured flow of 64,000 a.f. in 1961.

"Shortages" of water are expected for some irrigators as early as mid-July.

All forecasts assume normal conditions of temperature and precipitation during the forecast period.

* Preliminary data from U. S. Geological Survey, Portland, Oregon.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Beech Creek	Fair	Poor
Beech Creek-Fox-Long Crs.	Fair	Poor
Bridge-Mountain Creeks	Fair	Poor
Camas Creek	Fair	Poor
Cherry Creek	Fair	Poor
Indian-Pine Creeks	Fair	Poor
John Day River, Main Fork	Fair	Poor
John Day River, Mid. Fork	Fair	Poor
John Day River, N. Fork	Fair	Poor
John Day River, S. Fork	Fair	Poor
Monument-Kimberly	Fair	Poor
Strawberry Creek	Fair	Poor

RESERVOIR STORAGE (1,000 Ac. Ft.) April 1, 1963

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of April 1, 1963

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
0385	John Day at Prairie City	22	April-Sept.	54	41
		20	April-July	49	41
0440	John Day, Middle Fork at Ritter	55	April-Sept.	135	41
		52	April-July	131	40
0375	Strawberry near Prairie City	4.5	April-Sept.	9.1	49

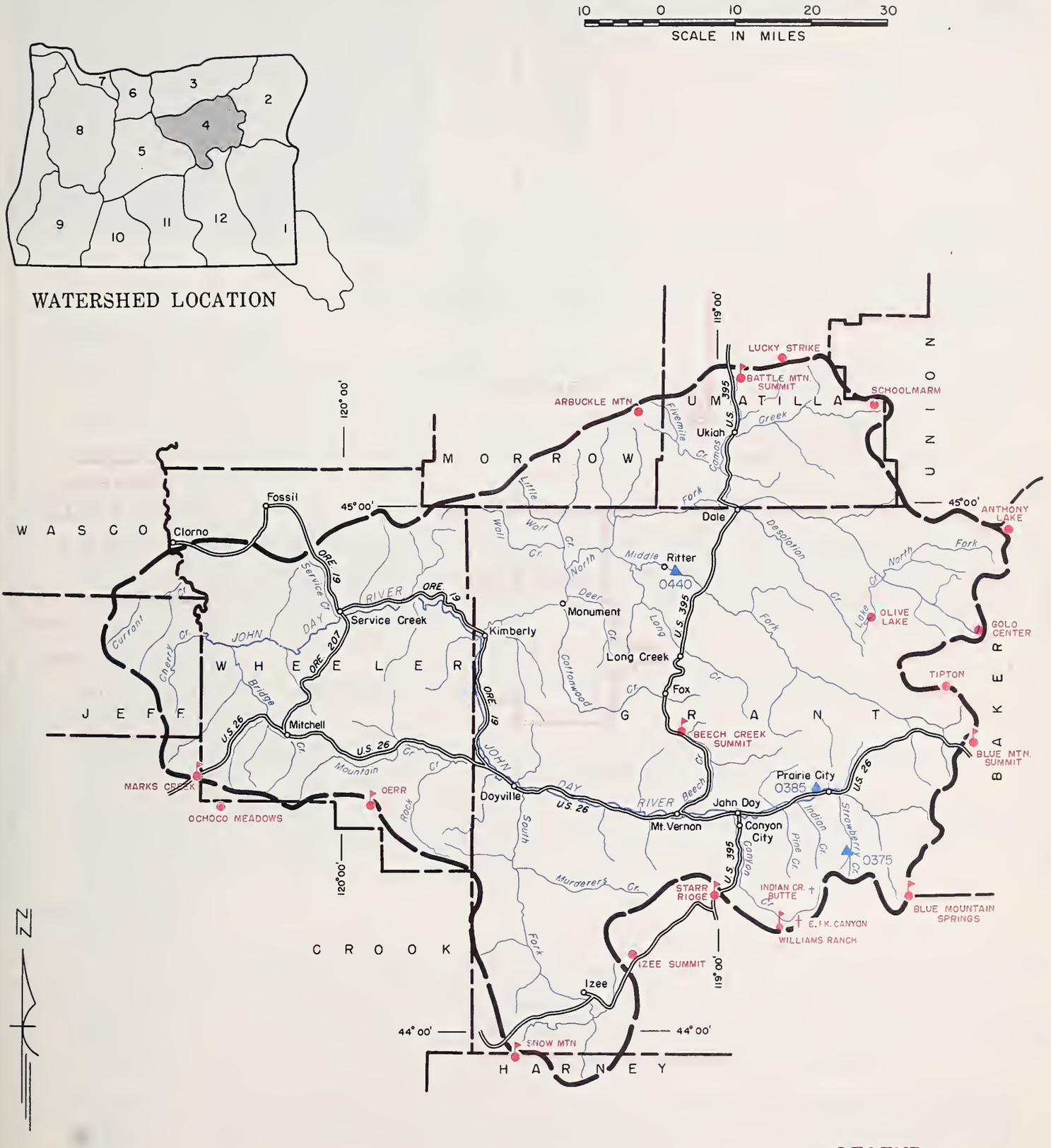
SOIL MOISTURE

STATION NAME	STATION ELEVATION	PROFILE (Inches) DEPTH	PROFILE (Inches) CAPACITY	SOIL MOISTURE (Inches) DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Battle Mountain Summit	4340	48	16.8	3-26-63	13.5	11.6[h]	13.0
Blue Mountain Springs	5900	42	16.9	3-26-63	13.5	9.7	13.0
Blue Mountain Summit	5100	36	16.8	3-26-63	13.3	7.4	11.6
Derr	5670	24		c			
Marks Creek	4540	36	14.1	3-28-63	13.7	13.5	13.6
Snow Mountain	6300	48	16.7	3-25-63	14.9	15.0	- -
Starr Ridge	5150	36	10.6	3-26-63	10.5	10.0	10.1

NOTE: The soil moisture figures published herein are <u>not</u> comparable to those published last year and earlier due to a change in the scale of evaluation. The new figures represent total moisture in the soil rather than moisture available to plants.

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Not surveyed. (h) Nearest current data. (i) Partly estimated. (*) 1943-57 Adjusted average. (**) Average for 5 or more years in base period.

UPPER JOHN DAY WATERSHEDS



LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- Forecast Point
- Snow Course
- Soil Moisture Station
- Aerial Snow Depth Gage

Upper John Day Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1943-57 AVERAGE
Anthony Lake	7125	3/25	55	16.3	29.4	30.5
Arbuckle Mountain	5400	3/25	0	0.0	15.1	12.1
Battle Mountain Summit	4340	3/26	0	0.0	4.0	- -
Beech Creek Summit	4800	3/27	0	0.0	7.6	5.2
Blue Mountain Springs	5900	3/26	19	7.4	17.1	16.9
Blue Mountain Summit	5098	3/26	4	1.5	10.2	8.9
Derr	5670	3/25	3	1.1	11.6	10.8
East Fork Canyon [e]	5700	*f*				
Gold Center	5340	3/28	3	1.5	15.2	13.3
Indian Creek Butte [e]	6550	*f*				
Izee Summit	5293	3/26	0	0.0	10.2	8.6
Lucky Strike	5050	3/26	23	7.8	14.1	14.3*
Marks Creek	4540	3/28	0	0.0	6.4	2.9
Ochoco Meadows	5200	3/29	T	T	16.3	11.0
Olive Lake	6000	3/29	30	8.8	23.7	22.3
Schoolmarm	4775	3/30	0	0.0	5.2	6.4*
Snow Mountain	6300	3/25	17	6.4	17.1	14.8*
Starr Ridge	5150	3/26	0	0.0	6.0	5.9
Tipton	5100	3/26	4	2.0	11.8	11.0*
Williams Ranch	4500	*f*				

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
UPPER DESCHUTES, CROOKED WATERSHEDS
OREGON

as of

APRIL 1, 1963

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1963 irrigation season is opening in the Deschutes-Crooked watersheds with an extremely low streamflow outlook which will mean "short" water supplies for many acres depending on natural flow. Most irrigators depending on reservoired water will have sufficient water to "get by" but reservoirs will have little or no carry-over water at the end of the season.

SNOW COVER

March storms produced additional snow at highest elevations but did not reduce the huge deficit in the snowpack which is at a record low. Water content of the snow on April 1 is 25 percent of average on the main Deschutes and 19 percent average on Crooked River watersheds.

SOIL MOISTURE

Soils in the upper watersheds are wet up to 93 percent of total capacity.

RESERVOIR STORAGE

Ochoco and Prineville reservoirs together have 148,600 acre feet in storage compared with 110,000 a.f. at this date last year. This is an abundant supply.

Crane Prairie and Crescent Lake reservoirs have 47,700 a.f. and 63,500 a.f. respectively, which is considerably greater than last year and the average. Wickiup reservoir now has 200,000 acre feet available compared with 189,000 at this time last year.

STREAMFLOW

Flow of the Deschutes at Benham Falls is forecast at 60 percent average for the next six months. Little Deschutes is forecast at 37 percent for the same period. Water users dependent on natural flow of the Deschutes will have below average supplies except for lands served by the Swalley Ditch which will have adequate water. Stored water supplies are excellent but will be fully required since direct streamflow is so low.

Tumalo and Squaw Creeks are forecast at 55 and 58 percent of average for the April-September period. The Plainview-McCallister Ditch will have very little water this season.

Crooked River at Post is forecast at 22 percent of average and Ochoco inflow at 16 percent average for the next six months. Upriver water users without stored water will have very little water.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Arnold Irrigation District	Average	Fair
Bear Creek	Fair	Poor
Beaver Creek	Fair	Poor
Camp Creek	Fair	Poor
Central Ore. Irrig. Dist.	Average	Fair
Crooked River (abv. Res.)	Fair	Poor
Deschutes River	Fair	Poor
Hay-Trout Creeks	Fair	Poor
Lone Pine Irrig. Dist.	Average	Fair
Mill Creek	Fair	Poor
North Unit Irrig. Dist.	Average	Fair
Ochoco Creek (above Res.)	Fair	Poor
Sisters Irrigation Dist.	Fair	Fair
Snow Creek Irrig. Dist.	Fair	Fair
Squaw Creek Irrig. Dist.	Fair	Fair
Swalley Ditch	Average	Average
Tumalo Project	Average	Average
Walker Basin Irrig. Dist.	Fair	Poor

RESERVOIR STORAGE (1,000 Ac. Ft.) April 1, 1963

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Crane Prairie	55.3	47.7	38.8	45.2
Crescent Lake	117.2	63.5	42.8	47.0
Ochoco	47.5	41.7	21.7	34.3
Prineville	153.0	106.9	88.4	- -
Wickiup	182.0	200.0	189.2	141.3

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of April 1, 1963

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
0535	Crane Prairie Reservoir total Inflow	70	April-Sept.	143	49
0600	Crescent at Crescent Lake[d]	9.0	April-Sept.	31	29
		7.5	April-July	25	30
0795	Crooked near Post	28	April-Sept.	129	22
		27	April-July	127	21
0645	Deschutes at Benham Falls[d]	360	April-Sept.	602	60
		250	April-July	404	62
0500	Deschutes below Snow Creek	36	April-Sept.	74	49
0630	Deschutes, Little near Lapine[d]	42	April-Sept.	113	37
		37	April-July	100	32
0848	Ochoco Reservoir net Inflow	5.0	April-Sept.	32	16
0555	Odell near Crescent	17	April-Sept.	34	50
0750	Squaw near Sisters	32	April-Sept.	55	58
0730	Tumalo near Bend[d]	30	April-Sept.	55	55

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Marks Creek	4540	36	14.1	3-28-63	13.7	13.5	13.6
Snow Mountain	6300	48	16.7	3-25-63	14.9	15.0	- -

NOTE: The soil moisture figures published herein are <u>not</u> comparable to those published last year and earlier due to a change in the scale of evaluation. The new figures represent total moisture in the soil rather than moisture available to plants.

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Partly estimated. (*) 1943-57 Adjusted average. (h) Nearest current data.

UPPER DESCHUTES, CROOKED WATERSHEDS

WATERSHED LOCATION

Upper Deschutes, Crooked Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1943-57 AVERAGE
Black Pine Spring	4600	3/28	0	0.0	3.8	5.9*
Caldwell Ranch	4400	3/20	0	0.0	11.3	11.0
Cascade Summit	4880	3/29	26	8.8	35.6	36.7
Chemult	4760	3/26	1	0.2	10.3	10.8*
Derr	5670	3/25	3	1.1	11.6	10.8
Fire Road	5050	3/18	0	0.0	10.0	- -
Hogg Pass	4755	3/27	33	11.5	48.0	50.6
Hungry Flat	4400	3/27	0	0.0	T	6.1*
Irish-Taylor	5500	3/20	42	14.7	45.8	43.0*
Marks Creek	4540	3/28	0	0.0	6.4	2.9
Mowich	4700	3/20	0	0.0	3.4	- -
New Crescent Lake	4800	3/20	0	0.0	15.6	18.4*
New Dutchman Flat #2	6400	3/27	61	23.3	58.0	57.5*
Ochoco Meadows	5200	3/29	T	T	16.3	11.0
Paulina Lake	6330	3/18	27	10.0	22.9	- -
Paulina Prairie	4285	3/18	0	0.0	0.0	- -
Snow Mountain	6300	3/25	17	6.4	17.1	14.8*
Tamarack	4800	3/25	0	0.0	4.6	- -
Tangent	5400	3/27	10	3.8	27.6	23.3*
Three Creeks Butte	5200	3/28	0	0.0	16.6	- -
Three Creeks Meadows	5600	3/28	T	T	28.7	23.3
Waldo Lake	5500	3/19	28	9.2	34.6	35.5
Willamette Pass	5600	3/22	46	16.4	45.2	46.2*
Windigo Pass	5800	3/21	46	17.5	48.3	48.5*

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS
OREGON

as of
APRIL 1, 1963

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1963 irrigation season will soon begin in Hood River and Wasco counties with the poorest water supply outlook since 1944. Heavy storms near the end of March were not enough to offset the huge deficit in the near record-low snowpack.

SNOW COVER

Snow cover is near the low of record for almost all snow courses and now averages only 15 percent of the April 1 average for the 1943-57 period. Snow measurements average only 15 percent of last year at this time as well.

SOIL MOISTURE

Watershed soil moisture is good and will favor runoff from the melting snow or future rain storms.

RESERVOIR STORAGE

Storage in Clear Lake Reservoir is reported to be 4,800 acre feet near the end of March. Heavy storms near the end of the month should produce some added inflow to this reservoir. Present storage is slightly ahead of last year at this time when the reservoir held 4,700 acre feet.

STREAMFLOW

The flow of Hood River* during March was only 64 percent of average and has averaged 81 percent of the 15 year average (1943-57) since October 1.

Forecasts of streamflow for the April-September period range from 51 percent or 90,000 acre feet for White River to 57 percent or 100,000 acre feet for West Fork of Hood River. Hood River near Hood River is expected to flow 205,000 or 56 percent of average.

The above forecasts assume normal temperature and precipitation during the forecast period.

* Preliminary data from U. S. Geological Survey, Portland, Oregon.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE · PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Aldridge Ditch	Poor	Poor
Badger Creek	Poor	Poor
Dee Irrigation District	Fair	Poor
East Fork Irrig. Dist.	Fair	Poor
Farmers Irrig. Dist.	Fair	Poor
Hood River Irrig. Dist.	Fair	Poor
Juniper Flat	Fair	Poor
Middle Fork Irrig. Dist.	Fair	Poor
Mile Creeks	Poor	Poor
Mill Creek	Poor	Poor
Mount Hood Irrig. Dist.	Fair	Poor
Rock-Gate-Threemile Creeks	Poor	Poor
Tygh Creek	Poor	Poor
White River	Fair	Poor

RESERVOIR STORAGE (1,000 Ac. Ft.) April 1, 1963

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Clear Lake	- -	4.8	4.7	- -

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of April 1, 1963

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
1210	Hood near Hood River[d]	205	April-Sept.	365	56
		175	April-July	311	56
1185	Hood, West Fork near Dee	100	April-Sept.	174	57
		87	April-July	151	58
1015	White below Tygh Valley	90	April-Sept.	178	51
		82	April-July	161	51

SNOW

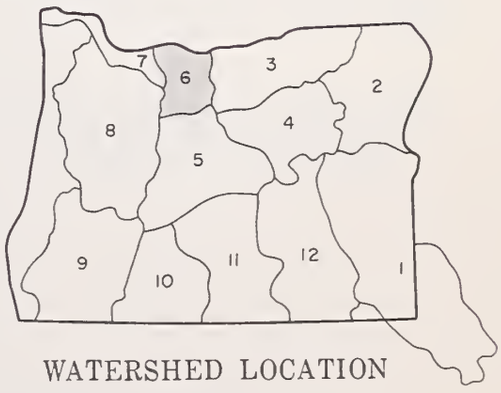
SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	WATER CONTENT (Inches) 1943-57 AVERAGE
Brooks Meadows	4300	3/26	0	0.0	14.8	15.0
Clear Creek Dam	3000	4/2	11	3.2	- -	- -
Clear Lake	3500	3/28	T	T	7.6	16.1
Clear Lake (Experimental)	3500	3/28	T	T	15.5	- -
Cooper Spur	3490	4/1	14	2.7	- -	- -
Greenpoint Reservoir	3400	3/24	0	0.0	18.6	17.7*
Knebal Springs	3850	3/26	0	0.0	9.9	- -
Lambert Point	7000	*f*				
Parkdale	1770	*e*				
Phlox Point	5600	3/29	78	22.8	64.4	70.7
Pinnacle Ridge	3495	*f*				
Red Hill	4400	3/24	10	3.0	45.4	54.3*
Still Creek	3700	3/28	6	2.5	24.8	30.1
Switchback	3255	*f*				
Tilly Jane	6000	3/24	24	10.9	50.5	50.0*
Ulrich Ranch Junction	3350	3/26	0	0.0	5.4	- -
Upper Valley	2530	*c*				

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Partly estimated. (*) 1943-57 Adjusted average. (**) Average for 5 or more years in base period.

HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course



WATERSHED LOCATION

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
LOWER COLUMBIA WATERSHEDS
OREGON

as of
APRIL 1, 1963

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK - Much below average flow, 74 percent, is expected for the lower Columbia during the 1963 snowmelt season. Less flow is forecast for the April-September period than for any year since 1944. The forecast this year, 78,560,000 acre feet, will be in the lower 10 percent of record.

In contrast to prospective summer flow, flow this winter has been relatively high. Precipitation that normally comes as snow in mountain elevations has fallen as rain, causing immediate runoff.

SNOW COVER - Snowpack in mountain areas remains deficient over all the basin. The headwaters of the Boise and Payette drainages in Idaho are now included with the Cascades of Washington and Oregon with a minimum of record snowpack ranging from about 25 to 35 percent of average for April 1. Only a small section in the Big Bend area of the upper Columbia in Canada has a near average snowpack. The Continental Divide area of southeastern British Columbia and western Montana has a seasonal snow accumulation in the range of 50 to 70 percent of average. A very limited snowpack exists on the southern tributaries of the Snake in Idaho and northern Nevada.

SOIL MOISTURE - Soil moisture conditions in both the mountain and the valley irrigated areas in the western and northern section of the basin are relatively good. Reports are that dry soil conditions are prevalent over the Snake River watershed at both mountain and valley elevations.

WATER SUPPLY OUTLOOK - High water problems will be at minimum as a result of snowmelt runoff. Shortages of irrigation water are expected for smaller Snake River tributaries in Idaho and Oregon with less than adequate water for much irrigated land along the Snake and Boise rivers. Irrigation storage will be depleted by the end of the season.

The winter flows for the Columbia at The Dalles* are as follows:

Month	Percent of Average Discharge (1943-57)			
October	111	Adjusted for storage		
November	116	"	"	"
December	124	"	"	"
January	93	"	"	"
February	145	"	"	"
March	95	"	"	"

* Preliminary data furnished by U. S. Geological Survey, Portland, Oregon.

Report prepared by
HOMER J. STOCKWELL
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of April 1, 1963

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
1057	Columbia at The Dalles	78,560	April-Sept.	106,100	74
		51,500	April-June	72,000	72

HISTORICAL DATA (Columbia River at The Dalles)

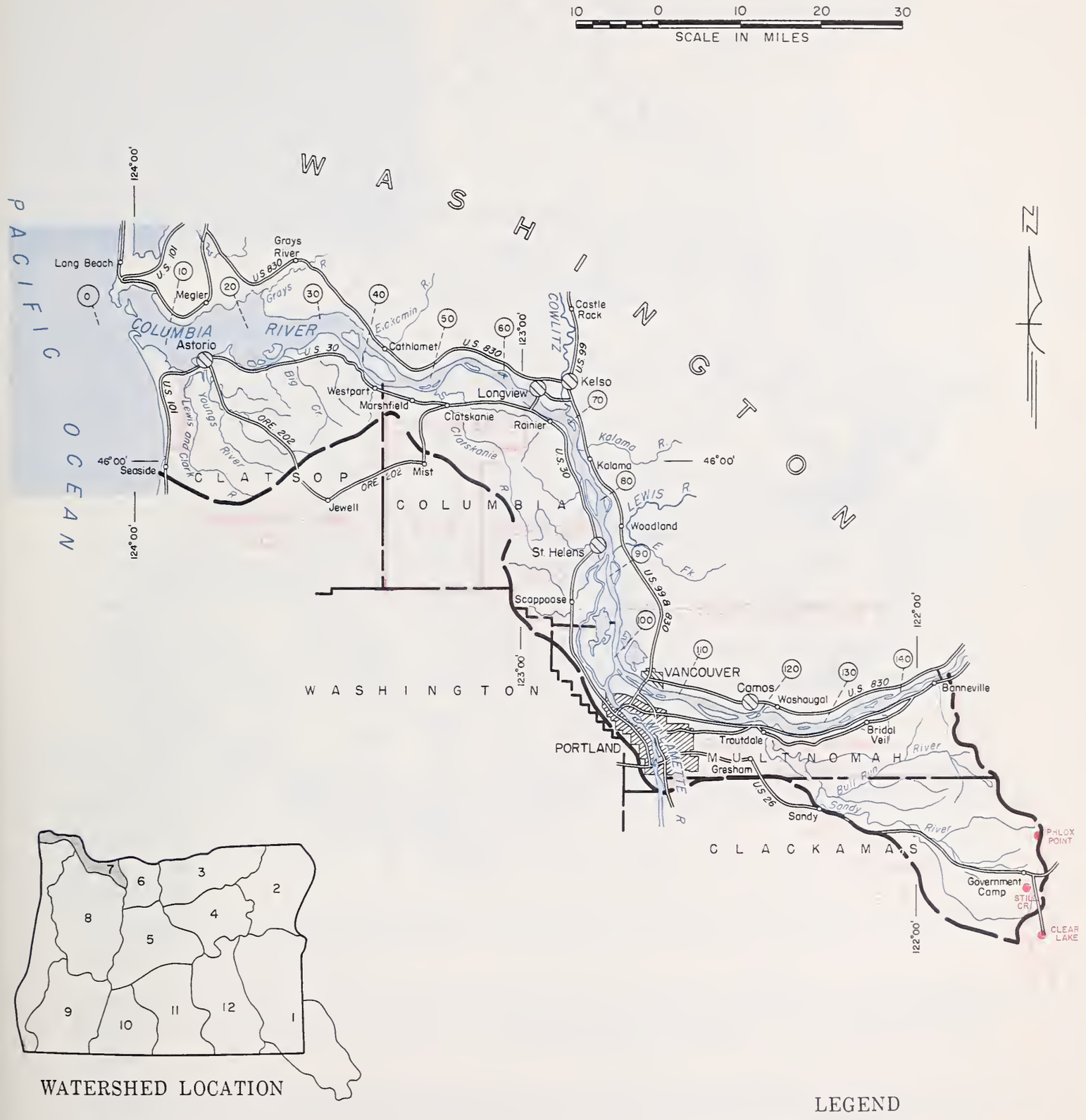
YEAR	STREAMFLOW[c] (1,000 A.F.) APR.—SEPT.	APR.—JUNE	MAY—JUNE	PEAK[e] (1,000 c.f.s)	DATE
1943	115,000	75,300	52,400	541	June 21
1944	61,900	39,200	32,100	326	June 19
1945	81,600	54,600	47,300	505	June 8
1946	108,100	75,400	59,600	581	May 30
1947	100,300	70,000	56,800	536	May 11
1948	130,500	94,600	81,900	999	May 31
1949	95,700	71,400	56,000	622	May 18
1950	120,400	74,700	61,200	744	June 25
1951	113,000	75,600	59,100	597	May 26
1952	107,700	77,500	57,300	557	May 28
1953	100,600	64,900	55,800	609	June 17
1954	119,500	70,500	59,300	561	May 23
1955	99,500	58,300	50,300	545	June 26
1956	131,400	96,900	75,800	815	June 3
1957	105,700	80,500	67,200	700	May 22
1943-57 Avg.	106,100	72,000	58,100	616	
1958	97,700	72,000	58,600	593	May 31
1959	112,500	71,900	58,900	555	June 23
1960	97,000	64,000	48,000	442	June 6

LOWER COLUMBIA RIVER FLOOD STAGES (with 9.5' tide at Astoria)[f]

VANCOUVER[g] GAGE (Weather Bu.)	FLOW AT THE DALLES (1,000 c.f.s)	DRAINAGE DISTRICT PUMPHOUSE SANDY	SAUVIE ISL.	SCAPPOOSE	DEER ISL.	RAINIER	BEAVER	WOODSON
		RIVER MILES 118.9	96.0	91.0	77.0	62.0	52.0	47.0
35 (1894)	1210	41.2	34.2	33.3	28.5	21.9	17.5	15.5
34	1160	40.5	33.5	32.5	27.7	21.2	17.0	15.0
33	1100	39.6	32.4	31.4	26.7	20.2	16.1	14.3
32	1050	38.9	31.5	30.5	25.7	19.5	15.4	13.7
31 (1948)	1000	38.0	30.7	29.5	25.1	18.8	14.7	13.0
30	940	36.6	29.5	28.5	24.3	18.1	14.0	12.4
29	890	35.5	28.5	27.7	23.7	17.5	13.4	11.8
28	840	34.3	27.5	26.7	22.8	17.0	13.0	11.4
27 (1956)	790	33.0	26.5	25.6	21.8	16.2	12.5	11.0
26 (1950)	750	32.1	25.5	24.6	20.9	15.5	12.2	10.7
25	700	30.7	24.2	23.2	19.7	14.6	11.7	10.3
24	660	29.7	23.0	22.2	19.0	14.1	11.4	10.2
23	630	29.0	22.3	21.4	18.4	13.6	11.2	10.0
22	590	28.1	21.4	20.3	17.2	13.0	10.9	9.7
21	560	27.2	20.7	19.5	16.4	12.6	10.6	9.6
20	530	26.2	19.8	18.6	15.5	12.1	10.2	9.4
19	510	25.5	19.2	18.0	15.0	11.8	10.0	9.3
18	480	24.4	18.3	17.2	14.3	11.4	9.8	9.1
17	450	23.4	17.4	16.4	13.7	11.0	9.6	8.9
16	430	22.4	16.5	15.5	13.0	10.5	9.3	8.7

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Observed flow corrected for storage in F.D.R., Kootenai, Pend Oreille, Flathead, Hungry Horse, Lake Chelan, Coeur d'Alene and Grand Coulee Equalizer. (d) Not scheduled. (e) Observed peak. (f) Based on Corps of Engineers automatic water stage recorder data. (g) Vancouver Weather Bureau gage zero is 1.82' above M.S.L. All other readings are in feet above M.S.L.

LOWER COLUMBIA WATERSHEDS



WATERSHED LOCATION

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- (50) River Miles
- Snow Course

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
WILLAMETTE WATERSHEDS
OREGON

as of
APRIL 1, 1963

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1963 water supply outlook is only fair for the Willamette Valley. Snow cover along the Cascades is a near record low and streamflow is expected to approach the low flows of 1941.

SNOW COVER

Month-end storms failed to make up the big deficit in snow cover on the Cascades. Measurements on 34 snow courses now average only 20 percent of the 1943-57 period for April 1 and many of these are near the lows of record. Water content of the snow pack is only 22 percent of last year at this time.

SOIL MOISTURE

Watershed soils are well primed and will aid runoff from snowmelt or rainfall.

RESERVOIR STORAGE

Six multi-purpose reservoirs in the Willamette Basin have above average storage and are ahead of last year at this time. These reservoirs are operated on a prearranged plan by the Corps of Army Engineers.

STREAMFLOW

The Middle Fork of the Willamette* flowed only 62 percent of average during March and 80 percent since October 1.

Streamflow forecasts range from 50 percent of the 1943-57 average on the Santiam to 60 percent or 3,272,000 acre feet for the Willamette at Salem for the April-September period.

The Clackamas at Estacada is expected to flow 480,000 acre feet or 55 percent and the McKenzie at Vida, 735,000 or 54 percent for the April-September period.

The Row River forecast is 65,000 or 57 percent for the same period.

The above forecasts are based on the assumption of normal precipitation and temperatures during the forecast period.

* Preliminary data from U. S. Geological Survey, Portland, Oregon.

Report prepared by
W.T. FROST AND BOB L. AHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Calapooya	Fair	Poor
Clackamas	Fair	Fair
McKenzie	Fair	Fair
Molalla	Fair	Poor
Santiam, North	Fair	Fair
Santiam, South	Fair	Fair
Willamette, Coast Fork	Fair	Fair
Willamette, Middle Fork	Fair	Fair

RESERVOIR STORAGE (1,000 Ac. Ft.) April 1, 1963

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Cottage Grove	30.8*	22.2	16.5	19.2
Detroit	299.9*	216.8	162.8	147.7
Dorena	70.5*	48.3	44.1	36.8
Fern Ridge	94.2*	87.4	78.5	63.5
Hills Creek	249.0*	155.0	129.3	- -
Lookout Point	337.2*	220.0	117.6	- -

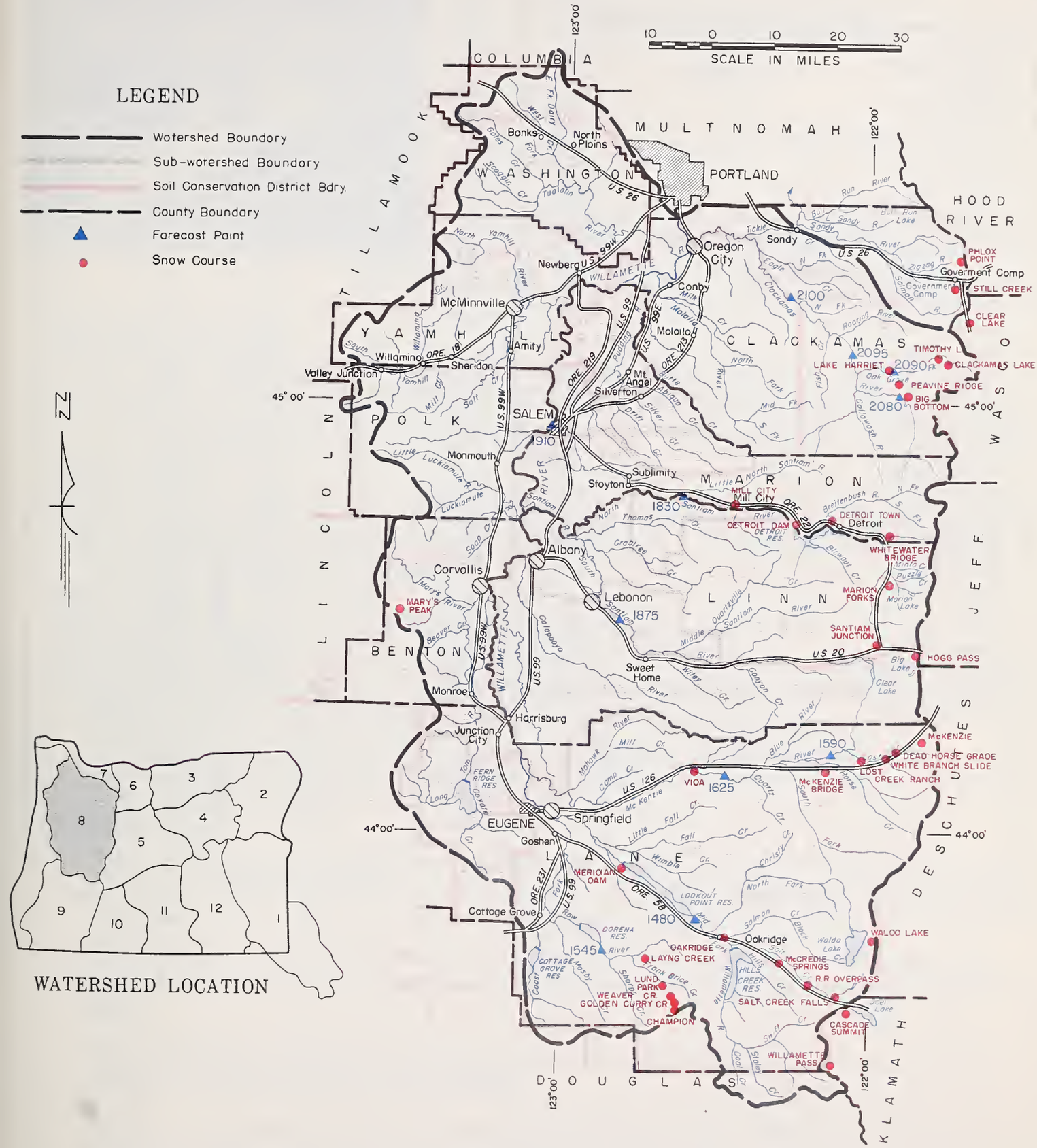
*Multiple purpose reservoir--space reserved primarily for flood runoff.

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of April 1, 1963

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
2080	Clackamas at Big Bottom	95	April-Sept.	184	52
		73	April-July	150	49
2100	Clackamas at Estacada	480	April-Sept.	879	55
		400	April-July	763	52
2095	Clackamas above Three Lynx	365	April-Sept.	674	54
		295	April-July	578	51
1590	McKenzie at McKenzie Bridge	360	April-Sept.	640	56
		260	April-July	488	53
1625	McKenzie near Vida	735	April-Sept.	1362	54
		570	April-July	1120	51
2090	Oak Grove Fork above Power Intake	110	April-Sept.	198	56
		83	April-July	156	53
1545	Row near Dorena	65	April-Sept.	114	57
		61	April-July	109	56
1830	Santiam, North at Mehama[d]	480	April-Sept.	968	50
		413	April-July	866	48
1875	Santiam, South at Waterloo	325	April-Sept.	652	50
		288	April-July	616	47
1480	Willamette, Mid. Fk. blw. N. Fk. nr. Oakridge	450	April-Sept.	909	50
		380	April-July	804	47
1910	Willamette at Salem[d]	3272	April-Sept.	5461	60
		2838	April-July	4942	57

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Not surveyed. (*) 1943-57 Adjusted average. (**) Average for 5 or more years in base period.

WILLAMETTE WATERSHEDS



Willamette Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE
Big Bottom	2118	3/30	6	2.3	0.0	9.2*
Cascade Summit	4880	3/29	26	8.8	35.6	36.7
Champion	4500	4/3	38	9.7	31.2	33.8
Clackamas Lake	3400	3/28	0	0.0	11.7	17.0*
Clear Lake	3500	3/28	T	T	7.6	16.1
Clear Lake (Experimental)	3500	3/28	T	T	15.5	- -
Dead Horse Grade	3800	3/29	2	0.6	23.0	24.1*
Detroit Town	1610	3/27	0	0.0	0.0	T*
Detroit Dam	1580	3/27	0	0.0	0.0	0.0*
Golden Curry Creek	3136	4/3	3	1.0	4.8	6.9*
Hogg Pass	4755	3/27	33	11.5	48.0	50.6
Lake Harriet	2045	3/29	0	0.0	0.0	0.2*
Layng Creek	1200	4/3	0	0.0	0.0	0.0*
Lost Creek Ranch	1956	3/29	0	0.0	T	1.5*
Lund Park	1740	4/3	0	0.0	0.0	0.0*
Marion Forks	2730	3/27	0	0.0	14.6	16.7
Marys Peak	3620	3/31	40	9.1	13.3	15.9*
McCredie Springs	2120	3/29	0	0.0	0.0	0.0*
McKenzie	4800	3/29	43	12.6	52.4	52.2*
McKenzie Bridge	1372	3/29	0	0.0	0.0	0.0
Meridian Dam	750	3/29	0	0.0	0.0	0.0*
Mill City	826	3/27	0	0.0	0.0	0.0*
Oakridge	1310	3/29	0	0.0	0.0	0.0
Peavine Ridge	3500	3/29	17	2.7	18.0	23.8
Phlox Point	5600	3/29	78	22.8	64.4	70.7
Railroad Overpass	2750	3/29	0	0.0	0.0	3.0*
Salt Creek Falls	4000	3/29	7	1.4	20.1	20.9*
Santiam Junction	3990	3/27	T	T	27.4	29.4
Still Creek	3700	3/28	6	2.5	24.8	30.1
Timothy Lake	3295	3/29	12	1.6	15.6	- -
Vida	800	3/29	0	0.0	0.0	0.0
Waldo Lake	5500	3/19	28	9.2	34.6	35.5
Weaver Creek	2440	4/3	0	0.0	0.0	2.7*
White Branch Slide	2800	3/29	0	0.0	6.1	6.6*
Whitewater Bridge	2175	3/27	0	0.0	1.1	5.7*
Willamette Pass	5600	3/22	46	16.4	45.2	46.2*

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
ROGUE, UMPQUA, WATERSHEDS
OREGON

as of
APRIL 1, 1963

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

The water supply outlook for the 1963 irrigation season in the Rogue-Umpqua area is varied with stored water supplies "saving the day" for the major irrigation districts. Other irrigators, dependent upon natural flow of streams, can expect very little water past the middle of summer.

SNOW COVER

March storms produced good additional snow at highest elevations but did not reduce the huge deficit in the snowpack which is at a record low. Water content of the snow on April 1 is 28 percent of average.

SOIL MOISTURE

Soils in the upper watersheds are very adequately re-primed.

RESERVOIR STORAGE

Stored water for the Talent Irrigation District now totals 97,000 acre feet compared with 65,100 a.f. last year on April 1. This is adequate for all uses.

The Medford and Rogue Valley Irrigation Districts have 13,800 acre feet in their reservoirs compared with 9,100 a.f. last year. Additional storage water can be obtained from the Talent District.

STREAMFLOW

Flow of the Rogue at Raygold* has been only 61 percent average in March and the forecast for the April-September period is 52 percent average. Grants Pass Irrigation District can expect canal rotation by about August 15th this season.

The Applegate and Illinois Rivers are forecast at 53 and 55 percent of average for the April-September period. These flows will be about the same as in the "short" year of 1955.

The North Umpqua below Lemolo Reservoir is forecast at 48 percent average or very similar to runoff in the dry year of 1941.

The above forecasts are made on the assumption that average conditions of temperature and precipitation will occur during the forecast period.

* Preliminary data from U. S. Geological Survey, Portland, Oregon and Pacific Power and Light Co., Medford, Oregon.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Althouse Creek	Fair	Poor
Applegate River, Big	Fair	Poor
Applegate River, Little	Fair	Poor
Ashland Creek	Fair	Poor
Butte Creek, Little	Fair	Poor
Butte Creek, Big	Fair	Poor
Cow Creek	Fair	Poor
Deer Creek	Fair	Poor
Elk Creek	Fair	Poor
Emigrant Cr. (above Res.)	Fair	Poor
Evans Creek	Fair	Poor
Gold Hill Irrigation Dist.	Average	Fair
Grants Pass Irrig. Dist.	Average	Fair
Grave Creek	Average	Fair
Illinois River, East Fork	Average	Fair
Illinois River, West Fork	Average	Fair
Jump-off-Joe Creek	Average	Fair
Neil Creek	Average	Fair
Red Blanket Creek	Average	Fair
Rogue River	Average	Fair
Sucker Creek	Fair	Poor
Table Rock Irrig. Dist.	Average	Fair
Thompson Creek	Fair	Poor
Wagner Creek	Fair	Poor
Williams Creek	Fair	Poor

RESERVOIR STORAGE (1,000 Ac. Ft.) April 1, 1963

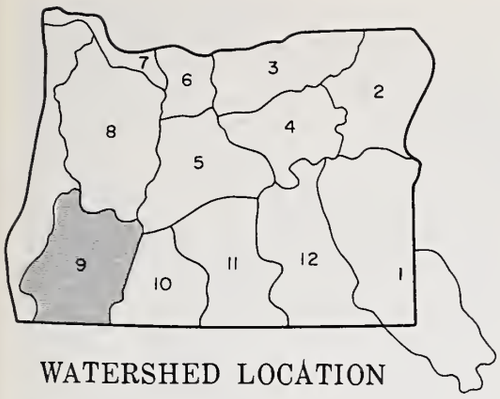
RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Emigrant Gap	39.0	37.1	33.7	7.4
Fish Lake	7.8	5.1	4.5	5.5
Fourmile Lake	16.1	8.7	4.6	9.2
Howard Prairie	60.0	45.4	22.5	- -
Hyatt Prairie	16.1	14.5	8.9	8.2

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of April 1, 1963

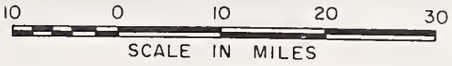
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
3620	Applegate near Copper	70	April-Sept.	131	53
3145	Clearwater above Trap Creek[d]	37	April-Sept.	73	51
5045	Fourmile Lake net Inflow[d]	***	April-Sept.	7.4	
5140	Hyatt Reservoir net Inflow[d]	***	April-Sept.	6.2	
3770	Illinois River at Kerby[d]	108	April-Sept.	196	55
		105	April-July	190	55
3425	Little Butte, N. Fk. at Fish Lake nr. Lake Cr.[d]	***	April-Sept.	16.9	
3415	Little Butte, So. Fk. near Lake Creek	***	April-July	42	
	Note: Minimum flow will drop to 100 c.f.s. by ***				
3280	Rogue above Prospect	180	April-Sept.	351	51
		152	April-July	293	52
3320	Rogue, South Fork near Prospect[d]	44	April-Sept.	83	53
		38	April-July	71	54
3350	Rogue below South Fork	395	April-Sept.	749	53
		328	April-July	608	54
3590	Rogue at Raygold near Central Point	525	April-Sept.	1004	52
		445	April-July	842	53
3615	Rogue at Grants Pass	505	April-Sept.	974	52
3135	Umpqua, North blw. Lemolo Res. nr. Toketee Falls[d]	90	April-Sept.	186	48
	***See March 1 Water Supply Outlook Report for forecasts of these streams. On April 1 there was insufficient snow survey data to re-evaluate these forecasts.				

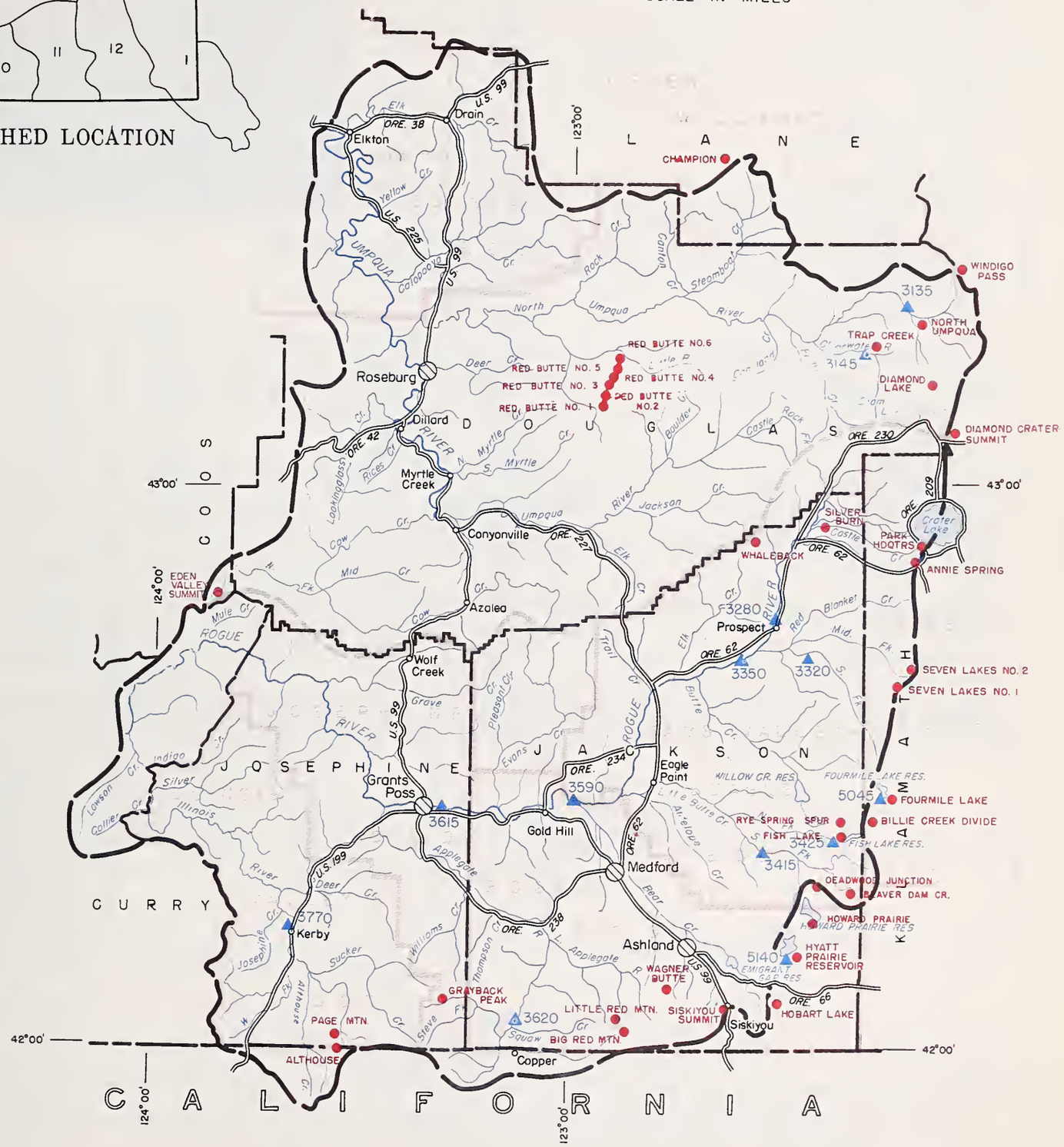
(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Not Surveyed. (h) Construction. (i) 7 of 18 sampling points. (j) Partly estimated. (*) 1943-57 Adjusted average.

ROGUE, UMPQUA WATERSHEDS



WATERSHED LOCATION





LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- Forecast Point
- Snow Course

Rogue, Umpqua Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE
Althouse	4530	3/28	4	0.7	9.5	6.5
Annie Spring	6018	3/31	72	21.0	48.2	49.2
Beaver Dam Creek	5100	g				
Big Red Mountain	6500	3/26	23	8.1	31.1	30.2
Billie Creek Divide	5300	3/29	7	1.0	27.2	26.3
Champion	4500	4/3	38	9.7	31.2	33.8
Cold Springs Camp	6100	3/25	27	10.7	41.0	- -
Deadwood Junction	4600	g				
Diamond-Crater Summit	5800	3/26	33	13.0	41.9	- -
Diamond Lake	5315	3/26	4	1.6	27.6	26.7
Eden Valley Summit	2390	f				
Fish Lake	4865	g				
Fourmile Lake	6000	g				
Grayback Peak	6000	3/28	24	4.3	27.9	27.4
Hobart Lake	5010	g				
Howard Prairie	4500	g				
Hyatt Prairie Reservoir	4900	g				
Little Red Mountain	6500	3/26	20	5.0	26.8	24.1
North Umpqua near Lake Creek	4215	3/28	1	0.2	15.7	15.7
Page Mountain	4045	3/28	2	0.4	5.6	- -
Park Headquarters	6450	3/31	105	35.0	56.9	61.4*
Red Butte #1	4560	3/25	6	2.4	14.4	- -
Red Butte #2	4000	3/25	0	0.0	10.0	- -
Red Butte #3	3500	3/25	0	0.0	6.8	- -
Red Butte #4	3000	3/25	0	0.0	0.0	- -
Red Butte #5	2500	3/25	0	0.0	0.0	- -
Red Butte #6	2000	3/25	0	0.0	0.0	- -
Rye Spring Spur	5000	g				
Seven Lakes #1	6800	3/28	76	25.8	66.6	62.6*
Seven Lakes #2	6200	3/28	40	13.1	49.8	46.1
Silver Burn	3720	3/29	1	0.3	12.6	13.0
Siskiyou Summit	4630	3/30	0	0.0	2.6	3.9*
South Fork Canal	3500	3/29	0	0.0	0.0	1.2
Trap Creek	3800	3/28	T	T	8.3	14.0*
Wagner Butte	6900	g				
Whaleback	5140	3/28	25	5.5	38.1	39.3*
Windigo Pass	5800	3/21	46	17.5	48.3	48.5*

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
KLAMATH WATERSHEDS
OREGON

as of

APRIL 1, 1963

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1963 irrigation season opens in Klamath Basin with a varied water supply outlook. Irrigators with reservoired water supplies will likely have a satisfactory season while lands dependent on natural streamflow will have little or no late season water.

SNOW COVER

March storms, although they were exceptionally heavy at month's end, produced insufficient new snow to reduce the huge deficit in the record-low snowpack. Water content of the mountain snowcover is now 31 percent of the April 1 average.

SOIL MOISTURE

Moisture in the upper watershed soil mantle as measured at Bly Mountain is 81 percent of total capacity.

RESERVOIR STORAGE

Gerber and Clear Lake reservoirs have in storage 46,200 and 136,800 acre feet respectively compared with 15,200 and 94,000 acre feet last year on April 1. This will be an adequate supply for this season.

Upper Klamath Lake now has 530,500 acre feet in storage compared ;with 481,200 a.f. one year ago. This is adequate for irrigation purposes but with limited inflow expected will be somewhat short for usual hydro-power generation.

STREAMFLOW

March inflow to Klamath Lake* was 78 percent of average and flow October 1 through March has been 110 percent of average.

Forecast of inflow to Klamath Lake for the April-September period is 375,000 acre feet or 59 percent average. The Williamson River is forecast at 275,000 acre feet or 56 percent and the Sprague River at 123,000 acre feet or 42 percent for the same six months. On Lost River forecasts of inflow to Gerber Reservoir and Clear Lake Reservoir are 4,000 a.f. and 9,000 acre feet respectively, or 16 and 18 percent average.

The above forecasts assume normal conditions of temperature and precipitation during the forecast period.

* Preliminary data from Pacific Power and Light Co., Medford, Oregon and U. S. Bureau of Reclamation, Klamath Falls, Oregon.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE · PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Foir" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Fort Klamath Valley	Fair	Poor
Lost River (Clear Lake)	Average	Average
Lost River (Gerber)	Average	Average
Lost River (Willow Res.)	Average	Fair
Sprague River	Fair	Poor
Upper Klamath Lake	Average	Average
Williamson River	Fair	Poor

RESERVOIR STORAGE (1,000 Ac. Ft.) April 1, 1963

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Clear Lake	440.2	136.8	94.0	259.0
Gerber	94.0	46.2	15.2	54.9
Upper Klamath Lake	584.0	530.5	481.2	437.2

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of April 1, 1963

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
923	Clear Lake Reservoir Inflow[g]	9.0	April-Sept.	50	18
8215	Gerber Reservoir Inflow[g]	4.0	April-Sept.	25	16
5010	Sprague near Chiloquin	123	April-Sept.	296	42
5070	Upper Klamath Lake net Inflow[g]	375	April-Sept.	632	59
5025	Williamson below Sprague River[d]	275	April-Sept.	486	56

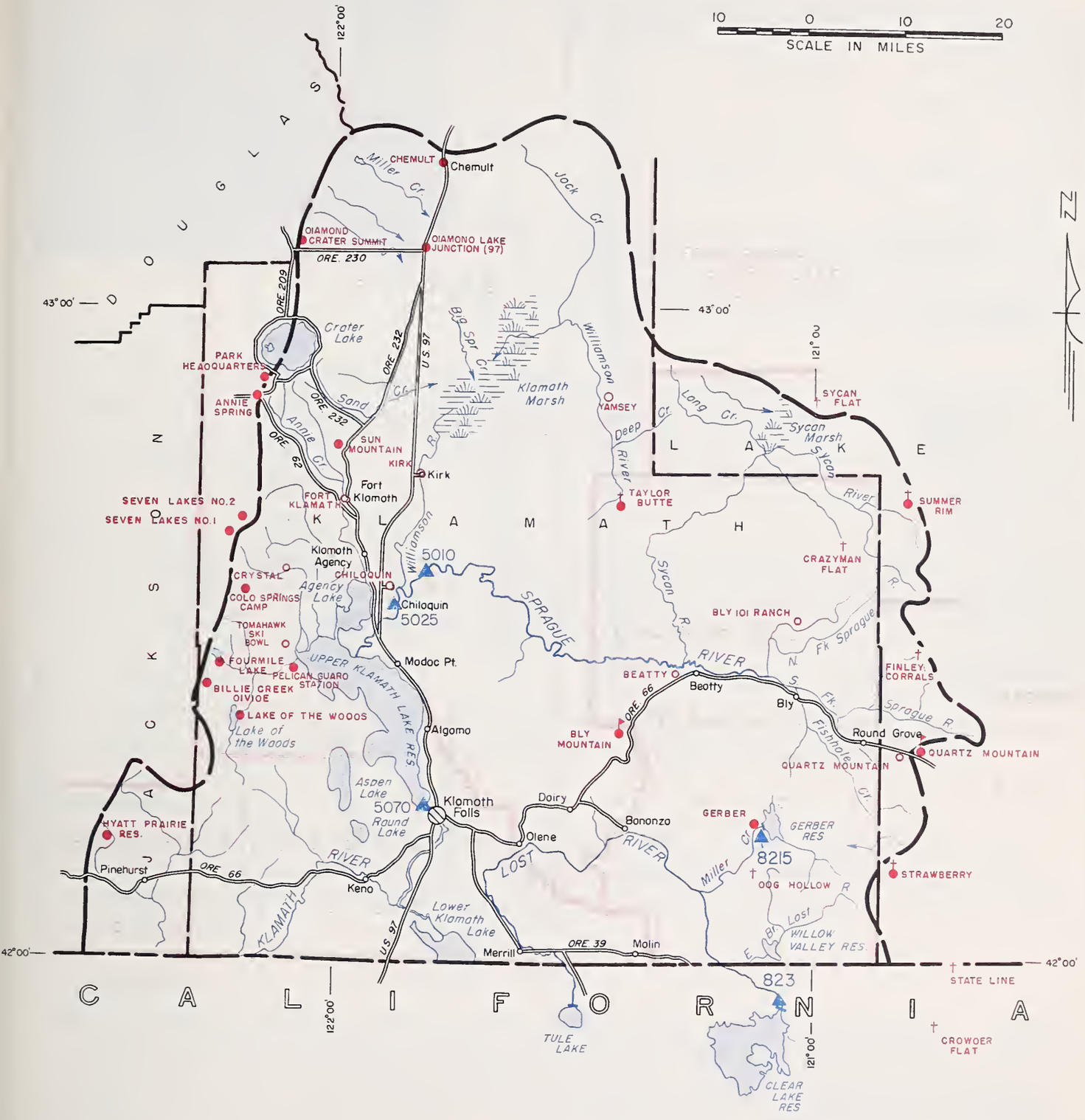
SOIL MOISTURE

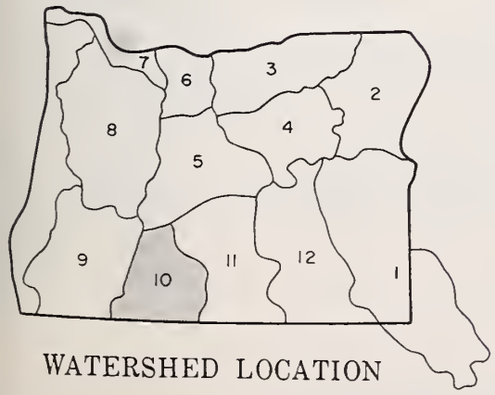
STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Bly Mountain	5090	42	14.0	3-29-63	11.4	8.8[j]	11.2
Quartz Mountain	5320	48	15.3	3-29-63	10.9	5.7	6.0

NOTE: The soil moisture figures published herein are not comparable to those published last year and earlier due to a change in the scale of evaluation. The new figures represent total moisture in the soil rather than moisture available to plants.

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) From PP&L or USBR records of inflow. (h) Flashboards increase capacity to 513.0 (i) Water content partly estimated. (j) Nearest current data. (k) Not surveyed. (*) 1943-57 Adjusted average. (**) Average for 5 or more years in the base perioa.

KLAMATH WATERSHEDS





WATERSHED LOCATION

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- Forecast Point
- Snow Course
- Aerial Snow Depth Gage
- COPCO Snow Station
- Soil Moisture Station

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1943-57 AVERAGE
Annie Springs	6018	3/31	72	21.0	48.2	49.2
Beatty (PP&L)	4300	3/30	0	0.0	0.0	0.0
Billie Creek Divide	5300	3/29	7	1.0	27.2	26.3
Bly Mountain	5090	3/29	0	0.0	10.6	- -
Bly 101 Ranch (PP&L)	4800	*f*				
Chemult	4760	3/26	1	0.2	10.3	10.8*
Chiloquin (PP&L)	4187	3/30	T	T	0.0	T
Cold Springs Camp	6100	3/25	27	10.7	41.0	- -
Crazyman Flat [e]	6100	*f*				
Crowder Flat [e] (Calif.)	5200	3/25	0	0.0	2.9	0.2*
Crystal (PP&L)	4200	3/31	0	0.0	10.1	6.9
Diamond-Crater Summit	5800	3/26	33	13.0	41.9	- -
Diamond Lake Junction (97)	4600	3/26	0	0.0	7.4	- -
Dog Hollow [e]	4900	3/25	0	0.0	0.0	- -
Finley Corrals [e]	6000	*f*				
Fort Klamath (PP&L)	4150	3/31	0	0.0	2.9	0.9
Gerber	4850	3/31	0	0.0	T	- -
Hyatt Prairie Reservoir	4900	*k*				
Kirk (PP&L)	4533	3/31	T	T	1.8	1.9
Lake of the Woods	4960	3/25	1	0.4	14.7	11.9
Park Headquarters	6450	3/31	105	35.0	56.9	61.4*
Pelican Guard Station	4150	3/29	0	0.0	0.0	- -
Quartz Mountain	5320	3/29	T	T	9.8	5.4
Quartz Mountain (PP&L)	5504	3/29	4	0.9	10.4	5.7*
Seven Lakes #1	6800	3/28	76	25.8	66.6	62.6*
Seven Lakes #2	6200	3/28	40	13.1	49.8	46.1
State Line (Calif.)	5750	3/25	0	0.0	16.6	- -
Strawberry	5600	3/27	0	0.0	13.2	8.2*
Summer Rim	7200	3/27	25	7.3	22.1	19.7
Sun Mountain	5350	3/22	12	3.6	29.2	29.1
Sycan Flat [e]	5500	*f*				
Taylor Butte	5100	3/22	0	0.0	8.8	4.3*
Tomahawk Ski Bowl (PP&L)	4200	3/28	0	0.0	2.1	0.9
Yamsey (PP&L)	4600	*f*				

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
LAKE COUNTY, GOOSE LAKE WATERSHEDS
OREGON

as of
APRIL 1, 1963

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1963 irrigation season, already underway in Lake County, has a rather grim water supply outlook with forecasts of expected streamflow ranging from 13 to 36 percent average. The only really bright spot is the water stored for use by Lakeview Water Users Association who are assured of a good irrigation season this year.

SNOW COVER

March storms, although heavy at month's end, produced insufficient new snow to reduce the huge deficit in the record-low snowpack. Water content of the mountain snow cover is now only 17 percent of the April 1 average in Lake County.

SOIL MOISTURE

Fortunately, the moisture in the upper watershed soil mantle is 86 percent of the total capacity at Camas Creek moisture station and will add to the spring streamflow.

RESERVOIR STORAGE

Water stored in Drews Valley Reservoir totals 47,200 acre feet compared with only 11,800 a.f. on April 1 a year ago. Cottonwood Reservoir held only 900 acre feet last year and now holds 7,200 acre feet. Hart Lake is spilling and water is flowing down to Bluejoint Lake.

STREAMFLOW

Inflow to Drews Reservoir is forecast at 4,500 acre feet or 13 percent average for the April-July period. Twentymile Creek is forecast at 4,500 acre feet or 22 percent average for the April-June period. For the same three months, Deep Creek and Honey Creek are forecast to flow 20,000 a.f. and 3,000 acre feet respectively, or 28 and 18 percent of average.

The Chewaucan River is forecast to flow 30,000 a.f. or 36 percent average for the April-June period.

Except where stored water is available, water users will experience conditions somewhat poorer than 1959 in Warner Valley and about the same as 1959 in the Chewaucan area.

Report prepared by
W.T. FROST AND BOB L. AMALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Chewaucan River	Fair	Poor
Crooked Creek	Fair	Poor
Deep Creek	Fair	Poor
Dry Creek	Fair	Poor
East Side Goose Lake	Fair	Poor
Guano Lake	Fair	Poor
Honey Creek	Fair	Poor
Lakeview Water Users Assn.	Average	Average
Rock Creek (Hart Mtn.)	Fair	Poor
Silver-Buck Creeks	Fair	Poor
Summer Lake	Fair	Poor
Thomas Creek	Fair	Poor
Twentymile Creek	Fair	Poor
Warner Lakes	Fair	Poor

RESERVOIR STORAGE (1,000 Ac. Ft.) April 1, 1963

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Cottonwood	8.7	7.2	0.9	1.5
Drew	63.0	47.2	11.8	48.7

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of April 1, 1963

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
3840	Chewaucan near Paisley	30	April-June	82	36
3715	Deep above Adel	20	April-June	71	28
3385	Drew Reservoir net Inflow	4.5	April-July	34	13
3785	Honey near Plush	3.0	April-June	16.3	18
3660	Twentymile near Adel	4.5	April-June	20	22

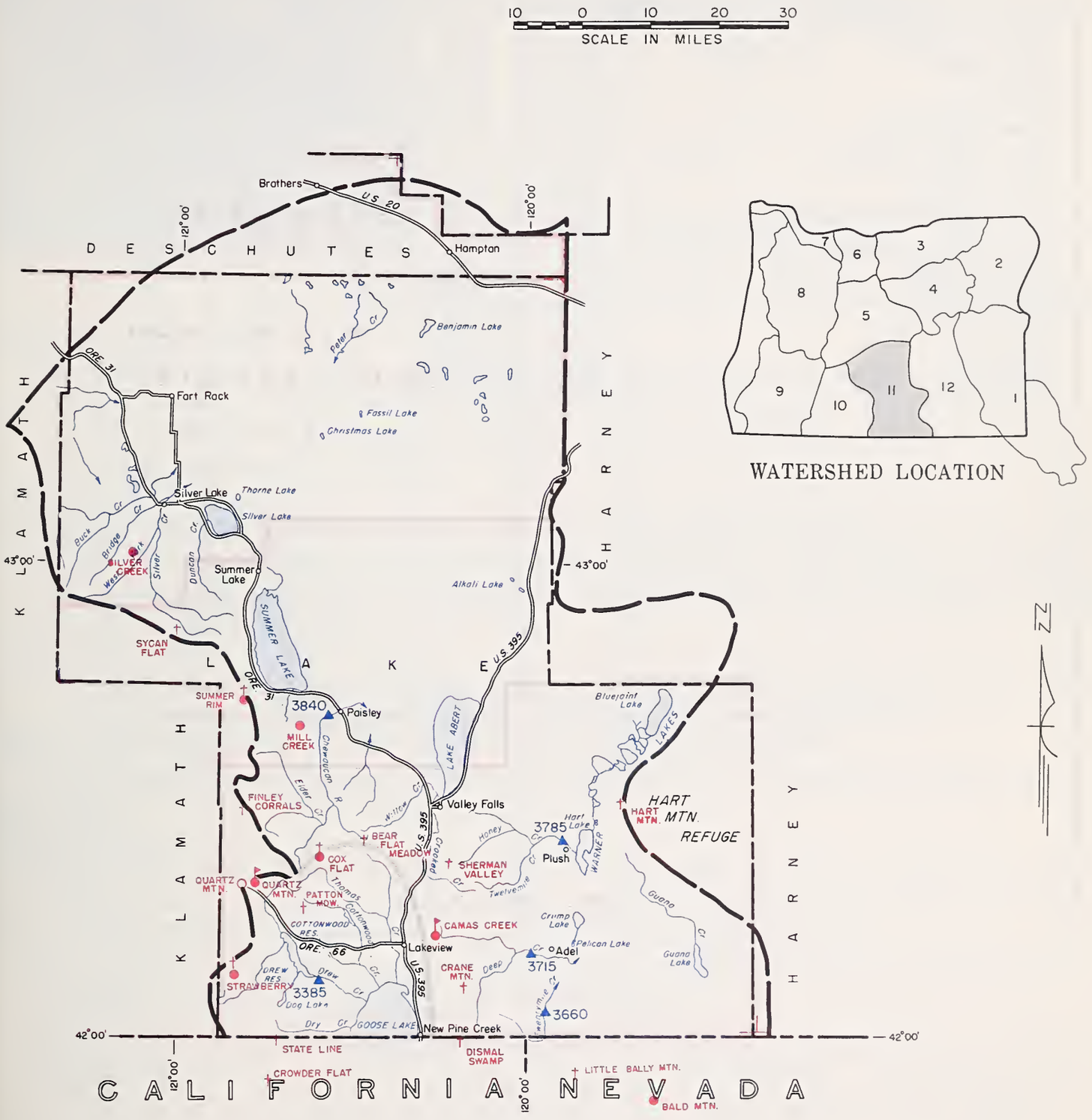
SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Camas Creek	5720	42	14.5	3-29-63	12.5	10.2	- -
Quartz Mountain	5320	48	15.3	3-29-63	10.9	5.7	6.0

NOTE: The soil moisture figures published herein are <u>not</u> comparable to those published last year and earlier due to a change in the scale of evaluation. The new figures represent total moisture in the soil rather than moisture available to plants.

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (*) 1943-57 Adjusted average. (**) Average for 5 or more years in base period. (g) Nearest current data.

LAKE COUNTY, GOOSE LAKE WATERSHEDS



LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- ▲ Forecast Point
- ● Snow Course
- † Aerial Snow Depth Gage
- ○ COPCO Snow Station
- ⚑ Soil Moisture Station

Lake County, Goose Lake Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1943-57 AVERAGE
Bald Mountain (Nev.)[m]	6720	3/27	0	0.0	8.0	3.1
Bear Flat Meadow[e]	5900	3/25	6	1.7	16.6	- -
Camas Creek	5720	3/29	3	0.6	16.7	11.8
Cox Flat[e]	5750	3/25	0	0.0	13.7	- -
Crane Mountain[e]	6020	3/25	0	0.0	8.6	- -
Crowder Flat[e] (Cal.)	5200	3/25	0	0.0	2.9	0.2*
Dismal Swamp[e] (Cal.)	7000	3/25	6	1.7	24.8	- -
Finley Corrals[e]	6000	*f*				
Hart Mountain[e]	6350	3/25	0	0.0	4.0	- -
Little Bally Mountain[e] (Nev.)	6600	3/25	0	0.0	4.3	- -
Mill Creek	6200	3/28	9	2.3	13.4	9.1
Quartz Mountain (PP&L)	5504	3/29	4	0.9	10.4	5.7*
Quartz Mountain	5320	3/29	T	T	9.8	5.4
Sherman Valley[e]	6600	3/25	3	0.8	18.7	- -
Silver Creek	4900	3/27	0	0.0	4.1	1.6
State Line[e] (Cal.)	5750	3/25	0	0.0	16.6	- -
Strawberry	5600	3/27	0	0.0	13.2	8.2*
Summer Rim	7200	3/27	25	7.3	22.1	19.7
Sycan Flat[e]	5500	*f*				

[m]Errata--March measurement read: 2/26, 27" snow depth, 9.4 water content, should have read - 3/1, 0 snow depth, 0.0 water content.

WATER SUPPLY OUTLOOK
HARNEY BASIN WATERSHEDS
OREGON

as of
APRIL 1, 1963

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1963 irrigation in Harney Basin began unusually early with the use of flood waters about mid-February immediately after all frost was out of the ground. Water prospects for the remainder of the irrigation season are the poorest since 1934. There will be less water than in either 1961 or 1959.

SNOW COVER

March storms were especially heavy at the end of the month but did not add enough snow to reduce the huge deficit in the snowpack which is record low. Water content of the present snow averages 19 percent average in the north half of the basin and 36 percent average for April 1 in the south half.

SOIL MOISTURE

Soil moisture in the upper watersheds continues very favorable to runoff with month-end readings indicating 87 percent of total capacity.

RESERVOIR STORAGE

Water supplies in stock ponds and small irrigation reservoirs are generally in good condition.

STREAMFLOW

Many of the smaller Harney County streams have had their "spring flow" and are rapidly falling off to mere trickles. Even the larger streams are past their spring peak flow and will continue meager runoff in accordance with the following forecasts:

The Silvies River is forecast to flow 19,000 acre feet April through June or 18 percent of average. The 1959 flow for this period was 24,000 a.f.

Silver Creek is forecast to flow 5,000 acre feet April through July or 19 percent average. The flow in 1961 was 7,000 a.f. for the same period. The 1959 flow was 5,300 a.f.

The Blitzen River is forecast to flow 22,000 acre feet or 40 percent average for April through June. The 1959 flow was 22,720 a.f. for this period.

Trout Creek, in lower Alvord Valley, is forecast to flow 2,500 acre feet or 31 percent average April through June. The 1959 flow was 2,375 a.f. for the same period and 1961 was measured at 2,996 a.f.

All forecasts assume normal conditions of temperature and precipitation during the forecast period.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE · PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Catlow Valley	Fair	Poor
Cow Creek	Fair	Poor
Donner und Blitzen River	Fair	Poor
Mill-Coffeepot Creeks	Fair	Poor
Rattlesnake Creek	Fair	Poor
Silver Creek	Fair	Poor
Silvies River	Fair	Poor
Soldier-Prather Creek	Fair	Poor
Trout Creek	Fair	Poor
Whitehorse Creek	Fair	Poor

RESERVOIR STORAGE (1,000 Ac. Ft.) April 1, 1963

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of April 1, 1963

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
3960	Donner und Blitzen near Frenchglen	27	April-Sept.	67	40
		22	April-June	55	40
4030	Silver near Riley	5.0	April-July	26	19
3935	Silvies near Burns	20	April-Sept.	107	19
		19	April-June	103	18
4065	Trout near Denio	2.8	April-Sept.	9.2	30
		2.5	April-June	8.1	31

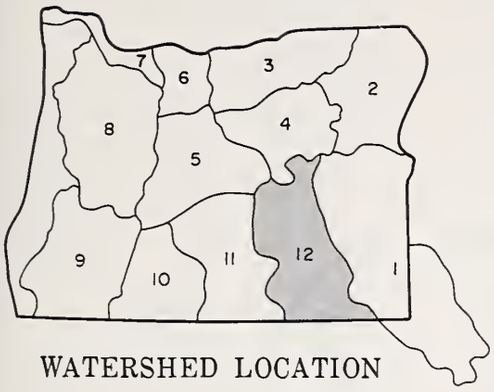
SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Blue Mountain Springs	5900	42	16.9	3-26-63	13.5	9.7	13.0
Fish Creek	7600	48	15.0	3-26-63	12.3	9.8	- -
Folly Farm	4450	36	12.5	3-28-63	9.9	- -	- -
Silvies	6900	48	16.4	3-26-63	13.1	12.9	- -
Snow Mountain	6300	48	16.7	3-25-63	14.9	15.0	- -
Starr Ridge	5150	36	10.6	3-26-63	10.5	10.0	10.1
Stinking Water	4800	48	21.9	3-28-63	21.5	- -	- -
Willow-Bald	5000	24	6.6	3-25-63	6.2	4.0	- -

NOTE: The soil moisture figures published herein are <u>not</u> comparable to those published last year and earlier due to a change in the scale of evaluation. The new figures represent total moisture in the soil rather than moisture available to plants.

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Not surveyed. (h) Partly estimated. (i) No Fall measurement. (j) Nearest current data. (k) 2 miles south of regular course. (*) 1943-57 Adjusted average. (**) Average for 5 or more years in base period.

HARNEY BASIN WATERSHEDS



WATERSHED LOCATION

10 0 10 20 30
SCALE IN MILES

N

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- ▲ Forecast Point
- ● Snow Course
- † Aerial Snow Depth Gage
- ⚑ Soil Moisture Station

Harney Basin Watersheds

SNOW

SNOW COURSE NAME	ELEVATION	CURRENT INFORMATION: DATE OF SURVEY	CURRENT INFORMATION: SNOW DEPTH (Inches)	CURRENT INFORMATION: WATER CONTENT (Inches)	PAST RECORD: WATER CONTENT (Inches) LAST YEAR	PAST RECORD: WATER CONTENT (Inches) 1943-57 AVERAGE
Blue Mountain Springs	5900	3/26	19	7.4	17.1	16.9
Buck Pasture [e]	5700	4/3	1	0.2	4.1	- -
Buckskin Lake [e]	5200	3/25	0	0.0	0.0	- -
Call Meadows [e]	5340	4/3	0	0.0	6.1	- -
Crow Camp [e]	5500	4/3	1	0.2	- -	- -
Delintment Lake	5600	3/25	3	0.8	9.5	8.8*
Denio Creek [e]	6000	3/25	0	0.0	0.0	- -
Disaster Peak (Nev.)	6500	3/27	T	T	18.8	11.5*
Emigrant Butte	5000	3/25	0	0.0	6.3	- -
Fish Creek	7900	3/26	49	16.2	26.6	28.0*
Foster Flat [e]	5020	3/25	0	0.0	0.0	- -
Hart Mountain [e]	6350	3/25	0	0.0	4.0	- -
Idlewild Camp	5200	3/28	T	T	6.2	5.0
Izee Summit	5293	3/26	0	0.0	10.2	8.6
Lake Creek	5120	3/26	0	0.0	9.8	11.2
Oregon Canyon [e]	6950	4/3	1	0.2	11.2	- -
Rock Spring	5100	3/28	T	T	5.4	4.9
Silvies	6900	3/26	8	3.0	18.4	14.4
Snow Mountain	6300	3/25	17	6.4	17.1	14.8*
Starr Ridge	5150	3/26	0	0.0	6.0	5.9
Stinking Water	4800	3/27	0	0.0	3.6	0.7*
Trout Creek [e]	7800	4/3	18	6.0	12.6	- -
"V" Lake [e]	6600	3/25	0	0.0	7.1	- -

Map and Index to OREGON SNOW COURSES

OWYHEE, MALHEUR WATERSHEDS (1)

Owyhee River

Number	Name	Sec.	Twp.	Rge.	Elev.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
17H6a	Quinn Ridge (Nev)	9	47N	41E	6300
16G11a	Red Canyon (Ida)	32	11S	4W	6500
15H6M	Rodeo Flat (Nev)	36	43N	53E	6800
15H3A	7o Creek (Nev)	6	44N	58E	7100
16F3	Silver City (Ida)	6	5S	3W	6400
18G1MA	Silvies	35	32S	32½E	6900
16G1	South Mountain No.2 (Ida)	35	7S	5W	6340
16F6a	Succor Creek (Ida)	25	3S	5W	6100
15H9M	Taylor Canyon (Nev)	35	39N	53E	6200
15H5	Tremewan Ranch (Nev)	9	39N	55E	5700
16G1MA	Triangle (Ida)	25	7S	3W	5150
18G5a	Trout Creek	10	41S	38E	7800
18G7a	"V" Lake	31	35½S	32½E	6600

Malheur River

Number	Name	Sec.	Twp.	Rge.	Elev.
18E14	Barney Creek	16	14S	36E	5950
18E16M	Blue Mountain Spring	21	15S	35E	5900
18F6a	Buck Pasture	21	29S	35E	5700
18E21a	Billy Creek	10	17S	37E	5300
18F7a	Call Meadows	29	20S	33E	5340
17F2a	Cottonwood-Indian	10	19S	39E	4320
18E19M	Crane Prairie	24	16S	34E	5375
18F8a	Crow Camp	Unsurveyed			
18E20	Eldorado Pass	20	14S	38E	4600
18E26a	Flag Prairie	32	16S	36E	4750
18E18	Lake Creek	10	16S	33½E	5120
18E22a	Logan Valley	13	16S	33½E	5100
18F1	Rock Spring	23	18S	32E	5100
18F4M	Stinking Water	33	21S	34E	4800

BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS (2)

Burnt River

Number	Name	Sec.	Twp.	Rge.	Elev.
18E14	Barney Creek	16	14S	36E	5950
18E13M	Blue Mountain Summit	6	12S	36E	5098
17E1M	Dooley Mountain	32	11S	40E	5430
18E20	Eldorado Pass	20	14S	38E	4600
18E8	Gold Center	21	9S	36E	5340
18E9	Tipton	34	10S	35½E	5100

Powder River

Number	Name	Sec.	Twp.	Rge.	Elev.
18E1	Anthony Lake	18	7S	37E	7125
18E5	Bourne	33	8S	37E	5800
17E1M	Dooley Mountain	32	11S	40E	5430
18E3	Eilertson Meadows	18	8S	38E	5400
18E8	Gold Center	21	9S	36E	5340
18E6	Goodrich Lake	4	9S	38E	6775
17D12m	Ladd Summit	5	5S	39E	3730
18E23	Little Alps	10	7S	37E	6200
18D10	Summit Springs	9	6S	37E	6000
17D7	Taylor Green	3	6S	42E	5740

Pine Creek

Number	Name	Sec.	Twp.	Rge.	Elev.
17D8	Schneider Meadows	35	6S	45E	5400

Grande Ronde River

Number	Name	Sec.	Twp.	Rge.	Elev.
17D1	Aneroid Lake No. 1	16	4S	45E	7480
17D2	Aneroid Lake No. 2	16	4S	45E	7000
18E1	Anthony Lake	18	7S	37E	7125
17D10a	Bald Mountain	14 & 15	4S	41E	6700
18D9	Beaver Reservoir	8	5S	37E	5340
18D8	County Line	28	4S	34E	4800
18D6	Lucky Strike	28	3S	32E	5050
18D5	Meacham	24 & 25	1S	35E	4300
17D13a	Mirror Lake	34	4S	44E	8200
17D6M	Moss Spring	28	3S	41E	5850
18D7	Schoolmarm	28	4S	34E	4775
17D11a	Standley	28	2S	42E	7400
17D7	Taylor Green	3	6S	42E	5740
18D3M	Tollgate	32	4N	38E	5070
17D15	TV Ridge	11	2S	43E	5670

Imnaha River

Number	Name	Sec.	Twp.	Rge.	Elev.
17D1	Aneroid Lake No. 1	16	4S	45E	7480
17D2	Aneroid Lake No. 2	16	4S	45E	7000
17D14	Big Sheep	33	4S	46E	6200

UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS (3)

Umatilla River

Number	Name	Sec.	Twp.	Rge.	Elev.
19D2	Arbuckle Mountain	33	4S	29E	5400
18D14m	Athena-Weston Summit	21	4N	35E	1700
18D12M	Battle Mountain Summit	29	3S	31E	4340
18D4M	Emigrant Springs	29	1N	35E	3925
18D6	Lucky Strike	28	3S	32E	5050
18D5	Meacham	24 & 25	1S	35E	4300
18D3M	Tollgate	32	4N	38E	5070
18D13	Walla Walla Diversion	22	6N	38E	2400

Walla Walla River

Number	Name	Sec.	Twp.	Rge.	Elev.
18D3M	Tollgate	32	4N	38E	5070

Willow Creek

Number	Name	Sec.	Twp.	Rge.	Elev.
19D2	Arbuckle Mountain	33	4S	29E	5400

UPPER JOHN DAY WATERSHEDS (4)

Upper John Day River

Number	Name	Sec.	Twp.	Rge.	Elev.
18E1	Anthony Lake	18	7S	37E	7125
19D2	Arbuckle Mountain	33	4S	29E	5400
18D12M	Battle Mountain Summit	29	3S	31E	4340
19E2M	Beech Creek Summit	4	12S	30E	4800
18E16M	Blue Mountain Spring	21	15S	35E	5900
18E13M	Blue Mountain Summit	6	12S	36E	5098
19E3M	Derr	14	13S	23E	5670
18E27a	East Fork Canyon	15	15S	32E	5700
18E8	Gold Center	21	9S	36E	5340
18E24a	Indian Gr. Butte	5	15S	33E	6550
19E9	Izee Summit	28	16S	29E	5293
18D6	Lucky Strike	28	3S	32E	5050
20E1M	Marks Creek	25	12S	19E	4540
20E2	Ochoco Meadows	21	13S	20E	5200
18E7	Olive Lake	14	9S	33½E	6000
18D7	Schoolmarm	28	4S	34E	4775
19F1M	Snow Mountain	1	19S	26E	6300
19E7M	Starr Ridge	20	15S	31E	5150
18E9	Tipton	34	10S	35½E	5100
18E25M	Williams Ranch	20	15S	32E	4500

UPPER DESCHUTES, CROOKED WATERSHEDS (5)

Upper Deschutes River

Number	Name	Sec.	Twp.	Rge.	Elev.
21E11	Black Pine Spring	14	16S	9E	4600
21F8	Caldwell Ranch	30	21S	8E	4400
22F3	Cascade Summit	7	23S	6E	4880
21F7	Charlton Lake	23	21S	6E	5750
21F11	Chemult	21	27S	8E	4760
21F14	Fire Road	36	21S	11E	5050
21E6	Hogg Pass	24	13S	7½E	4755
21F4	Hungry Flat	30	18S	11E	4400
21F6	Irish-Taylor	25	20S	6F	5500
21F17	Mowich	29	25S	25E	4700
21F10	New Crescent Lake	11	24S	6E	4800
21F19	New Dutchman Flat #2	21	18S	9E	6400
21F13	Paulina Lake	34	21S	12E	6330
21F15	Paulina Prairie	28	21S	11E	4285
21F3	Tangent	28	18S	10E	5400
21E15	Three Creeks Butte	27	16S	9E	5200
21E13	Three Creek Meadows	3	17S	9E	5600
22F2	Waldo Lake	15	21S	6E	5500
22F14	Willamette Pass	33	24S	5½E	5600
22F15	Windigo Pass	20	25S	6E	5800

Crooked River

Number	Name	Sec.	Twp.	Rge.	Elev.
19E3M	Derr	14	13S	23E	5670
20E1M	Marks Creek	25	12S	19E	4540
20E2	Ochoco Meadows	21	13S	20E	5200
19F1M	Snow Mountain	1	19S	26E	6300
19E4	Tamarack	8	15S	25E	4800

HOOD, MILE CREEKS LOWER DESCHUTES WATERSHEDS (6)

Hood River

Number	Name	Sec.	Twp.	Rge.	Elev.
21D5	Brooks Meadows	2	2S	10E	4300
21D25M	Cooper Spur	6	2S	10E	3490
21D1	Greenpoint Reservoir	28	2N	9E	3400
21D20	Knebal Springs	31	1S	11E	3850
21D23	Parkdale	6	1S	10E	1770
21D8	Phlox Point	6	3S	9E	5600
21D4	Red Hill	21	1S	9E	4400
21D9	Still Creek	25	3S	8½E	3700
21D7	Tilly Jane	15	2S	9E	6000
21D21	Ulrich Ranch Junction	28	1S	11E	3350
21D24	Upper Valley	20	1S	10E	2530

Mile Creeks - Mosier Creek

Number	Name	Sec.	Twp.	Rge.	Elev.
21D6	Brooks Meadows	2	2S	10E	4300
21D20	Knebal Springs	31	1S	11E	3850
21D21	Ulrich Ranch Junction	28	1S	11E	3350

Lower Deschutes River

Number	Name	Sec.	Twp.	Rge.	Elev.
21D12	Clear Lake	29	4S	9E	3500
21E6	Hogg Pass	24	13S	7½E	4755

LOWER COLUMBIA WATERSHEDS (7)

Sandy River

Number	Name	Sec.	Twp.	Rge.	Elev.
21D8	Phlox Point	6	3S	9E	5600
21D9	Still Creek	25	3S	8½E	3700

WILLAMETTE WATERSHEDS (8)

Clackamas River

Number	Name	Sec.	Twp.	Rge.	Elev.
21D15	Big Bottom	25	6S	7E	2118
21D13	Clackamas Lake	35	5S	8½E	3400
21D12	Clear Lake	29	4S	9E	3500
21D16	Lake Harriet	4	6S	7E	2045
21D14	Peavine Ridge	14 & 15	6S	7E	3500
21D8	Phlox Point	6	3S	9E	5600
21D9	Still Creek	25	3S	8½E	3700
21D17	Timothy Lake	26	5S	8E	3295

Santiam River

Number	Name	Sec.	Twp.	Rge.	Elev.
22E1	Detroit (town)	1	10S	5E	1610
22E2	Detroit Dam	7	10S	5E	1580
21E6	Hogg Pass	24	13S	7½E	4755
21E4	Marion Forks	28	11S	7E	2730
22E3	Mill City	29	9S	3E	826
21E5	Santiam Junction	14	13S	7E	3990
21E3	Whitewater Bridge	28	10S	7E	2175

McKenzie River

Number	Name	Sec.	Twp.	Rge.	Elev.
21E8	Dead Horse Grade	13	16S	7E	3800
22E4	Lost Creek Ranch	24	16S	6E	1956
21E7	McKenzie	35	15S	7½E	4800
22E5	McKenzie Bridge	13	16S	5E	1372
22E6	Vida	28	16S	2E	800
21E9	White Branch Slide	15	16S	7E	2800

Middle Fork Willamette River

Number	Name	Sec.	Twp.	Rge.	Elev.
22F3	Cascade Summit	7	23S	6E	4880
22F6	McCredie Springs	26	21S	4E	2120
22F8	Meridian Dam	13	19S	1W	750
22F7	Oakridge	16	21S	3E	1310
22F5	Railroad Overpass	27	22S	5E	2750
22F4	Salt Creek Falls	33	22S	6E	4000
22F2	Waldo Lake	15	21S	6E	5500
22F14	Willamette Pass	33	24S	5½E	5600

Coast Fork Willamette River

Number	Name	Sec.	Twp.	Rge.	Elev.
22F9	Champion	12	23S	1E	4500
22F10	Golden Curry Creek	1	23S	1E	3136
22F13	Layng Creek R. S.	31	21S	1E	1200
22F12	Lund Park	22	22S	1E	1740
22F11	Weaver Creek	35	22S	1E	2440

Mary's River

Number	Name	Sec.	Twp.	Rge.	Elev.
23E1	Mary's Peak	21	12S	7W	3620

ROGUE, UMPQUA WATERSHEDS (9)

Rogue River

Number	Name	Sec.	Twp.	Rge.	Elev.
23G4	Althouse	17	41S	7W	4530
22G6	Annie Spring	19	31S	6E	6018
22G28	Beaver Dam Creek	1	38S	4E	5100
22G21	Big Red Mountain	31	40S	1W	6500
22G13	Billie Creek Divide	30	36S	5E	5300
22G27	Deadwood Junction	8	38S	4E	4600
22F19	Diamond-Crater Summit	34	28S	6E	5800
22G14	Fish Lake	3	37S	4E	4865
22G12	Fourmile Lake	9	36S	5E	6000
23G3	Grayback Peak	9	40S	5W	6000
22G17	Hobart Lake	17	40S	3E	5010
22G26	Howard Prairie	32	38S	4E	4500
22G16	Hyatt Prairie Reservoir	15	39S	3E	4900
22G22	Little Red Mountain	25	40S	2W	6500
23G5	Page Mountain	8	41S	7W	4045
22G5	Park Headquarters	8	31S	6E	6450
22G29	Rye Spring Spur	33	36S	4E	5000
22G10	Seven Lakes No. 1	3	34S	5E	6800
22G11	Seven Lakes No. 2	26	33S	5E	6200
22G2	Silver Burn	30	30S	4E	3720
22G20	Siskiyou Summit	17	40S	2E	4630
22G9	South Fork Canal	12	33S	3E	3500
22G18	Wagner Butte	1	40S	1W	6900
22G1	Whaleback	3	31S	2E	5140

Umpqua River

Number	Name	Sec.	Twp.	Rge.	Elev.
22F9	Champion	12	23S	1E	4500
22F18	Diamond Lake	29	27S	6E	5315
23G7	Eden Valley Summit	10	32S	10W	2390
22F16	North Umpqua	19	26S	6E	4215
22F23	Red Butte No. 1	36	27S	2W	4560
22F24	Red Butte No. 2	30	27S	1W	4000
22F25	Red Butte No. 3	30	27S	1W	3500
22F26	Red Butte No. 4	36	27S	1W	3000
22F27	Red Butte No. 5	20	27S	1W	2500
22F28	Red Butte No. 6	17	27S	1W	2000
22F17	Trap Creek	1	27S	4E	3800
22G1	Whaleback	3	31S	2E	5140
22F15	Windigo Pass	20	25S	6E	5800

KLAMATH WATERSHEDS (10)

Klamath River

Number	Name	Sec.	Twp.	Rge.	Elev.
22G6	Annie Spring	19	31S	6E	6018
22G13	Billie Creek Divide	30	36S	5E	5300
21G5	Bly Mountain	15 & 22	37S	11E	5090
21F11	Chemult	21	27S	8E	4760
22G24	Gold Springs Camp	12	35S	5E	6100
20G12a	Crazyman Flat	9	34S	15E	6100
20H2a	Crowder Flat (Cal)	30	47N	11E	5200
22F19	Diamond-Crater Summit	34	28S	6E	5800
21F18	Diamond Lake Jct. (97)	1	29S	7E	4600
21G6a	Dog Hollow	1	40S	14E	4900
20G14a	Finley Corrals	11	36S	16E	6000
22G12	Fourmile Lake	9	36S	5E	6000
21G4	Gerber	12	39S	13E	4850
22G16	Hyatt Prairie Reservoir	15	39S	3E	4900
22G26	Howard Prairie	32	38S	4E	4500
22G15	Lake of the Woods	11	37S	5E	4960
22G5	Park Headquarters	8	31S	6E	6450
22G25	Pelican Guard Station	9	36S	6E	4150
20G6M	Quartz Mountain	2	38S	16E	5320
22G10	Seven Lakes No. 1	3	34S	5E	6800
22G11	Seven Lakes No. 2	26	33S	5E	6200
20H1a	State Line (Cal)	21	48N	11E	5750
20G9A	Strawberry	4	40S	16E	5600
20G2A	Summer Rim	15	33S	16E	7200
21G2	Sun Mountain	22	32S	7½E	5350
20G13a	Sycan Flat	25	31S	14E	5500
21G3	Taylor Butte	16	33S	11E	5100

Pacific Power and Light Company's Snow Stations

Number	Name	Sec.	Twp.	Rge.	Elev.
1	Beatty (PP&L)	22	36S	12E	4300
10	Bly 101 Ranch (PP&L)	22	35S	14E	4800
3	Chiloquin (PP&L).	34	34S	7E	4187
4	Crystal (PP&L)	26	34S	6E	4200
5	Fort Klamath (PP&L)	22	33S	7½E	4150
6	Kirk (PP&L)	1	33S	7E	4533
9	Quartz Mountain (PP&L)	33	37S	16E	5504
8	Tomahawk Ski Bowl (PP&L)	3	36S	6E	4200
12	Yamsey (PP&L)	20	31S	11E	4600

LAKE COUNTY, GOOSE LAKE WATERSHEDS (11)

Goose Lake

Number	Name	Sec.	Twp.	Rge.	Elev.
20G15a	Bear Flat Meadow	27	36S	19E	5900
20G8M	Camas Creek	5	39S	21E	5720
20G11a	Cox Flat	16	37S	18E	5750
20G16a	Crane Mountain	13	40S	21E	6020
20H2a	Crowder Flat (Cal)	30	47N	11E	5200
20H3a	Dismal Swamp (Cal)	31	48N	16E	7000
20G17a	Patton Meadow	28	38S	18E	6800
20G6M	Quartz Mountain	2	38S	16E	5320
20H1a	State Line (Cal)	21	48N	11E	5750
20G9A	Strawberry	4	40S	16E	5600

Abert Lake

Number	Name	Sec.	Twp.	Rge.	Elev.
20G15a	Bear Flat Meadow	27	36S	19E	5900
20G11a	Cox Flat	16	37S	18E	5750
20G14a	Finley Corrals	11	36S	16E	6000
20G4	Mill Creek	1	34S	17E	6200
20G6M	Quartz Mountain	2	38S	16E	5320
20G10a	Sherman Valley	15	37S	21E	6600

Summer Lake

Number	Name	Sec.	Twp.	Rge.	Elev.
20G2A	Summer Rim	15	33S	16E	7200

Silver Lake

Number	Name	Sec.	Twp.	Rge.	Elev.
21F12	Silver Creek	25 & 26	29S	13E	4900
20G13a	Sycan Flat	25	31S	14E	5500

Warner Lake

Number	Name	Sec.	Twp.	Rge.	Elev.
20G8M	Camas Creek	5	39S	21E	5720
20G16a	Crane Mountain	13	40S	21E	6020
20H3a	Dismal Swamp (Cal)	31	48N	22E	7000
19G1a	Hart Mountain	1	36S	25E	6350
20G10a	Sherman Valley	15	37S	21E	6600

Guano Lake

Number	Name	Sec.	Twp.	Rge.	Elev.
19H1	Bald Mountain (Nev)	17	45N	21E	6720
19G1a	Hart Mountain	1	36S	25E	6350
19H4a	Little Bally Mt. (Nev)	8	45N	19E	6600

HARNEY BASIN WATERSHED (12)

Silvies River - Silver Creek

Number	Name	Sec.	Twp.	Rge.	Elev.
18F7a	Call Meadows	29	20S	33E	5340
19F2	Delintment Lake	28	19S	26E	5600
19F3	Emigrant Butte	14	21S	27E	5000
18F3	Idlewild Camp	27	20S	31E	5200
19E9	Izee Summit	28	16S	29E	5293
18F1	Rock Spring	23	18S	32E	5100
19F1M	Snow Mountain	1	19S	26E	6300
19E7M	Starr Ridge	20	15S	31E	5150
18F4M	Stinking Water	33	21S	34E	4800
19F4m	Willow-Bald	19	22S	29E	5000

Donner Und Blitzen River

Number	Name	Sec.	Twp.	Rge.	Elev.
18F6a	Buck Pasture	21	29S	35E	5700
18G2MA	Fish Creek	4	33S	33E	7900
19G1a	Hart Mountain	1	36S	25E	6350
18G1MA	Silvies	35	32S	32½E	6900
18G7a	"V" Lake	31	35½S	32½E	6600

Trout and Whitehorse Creeks

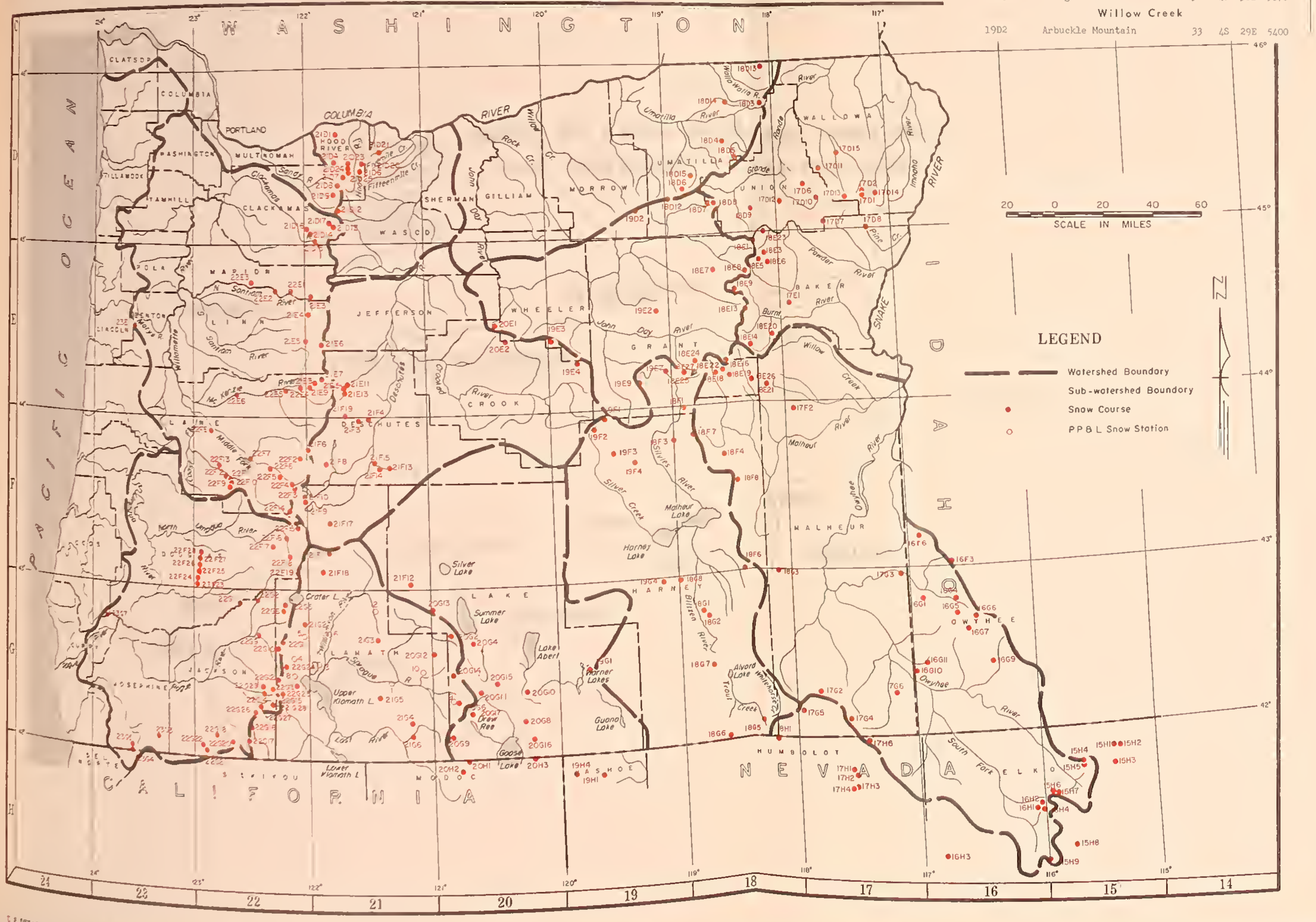
Number	Name	Sec.	Twp.	Rge.	Elev.
18G6a	Denio Creek	14	41S	34E	6000
18H1	Disaster Peak (Nev)	8	47N	34E	6500
17G5a	Oregon Canyon	9	40S	40E	6950
18G5a	Trout Creek	10	41S	38E	7800

Harney Lake

Number	Name	Sec.	Twp.	Rge.	Elev.
18G8	Buckskin Lake	2	30S	30E	5200
19G4	Foster Flat	15	30S	29E	5020

LEGEND

1902	SNOW COURSE ONLY
1902M	SNOW COURSE AND SOIL MOISTURE
1902MA	SNOW COURSE, SOIL MOISTURE AND AERIAL MARKER
1902A	SNOW COURSE AND AERIAL MARKER
1902■	SOIL MOISTURE ONLY
1902▲	AERIAL MARKER ONLY



7-S-19101-0

The Following Organizations Cooperate in the Oregon Snow Survey Work

STATE
- Idaho Cooperative Snow Surveys
- Nevada Cooperative Snow Surveys
- Oregon State University
- Oregon State Engineer and Corps of State Watermasters
- Oregon State Highway Engineers
- Soil Conservation Districts of Oregon

COUNTY
- Douglas County Water Resources Survey

FEDERAL
- Department of Agriculture
  - Cooperative Extension Service
  - Forest Service
  - Soil Conservation Service
- Department of Commerce
  - Weather Bureau
- Department of the Interior
  - Bonneville Power Administration
  - Bureau of Land Management
  - Bureau of Reclamation
  - Fish and Wildlife Service
  - Geological Survey
  - National Park Service
- Department of National Defense
  - Corps of Army Engineers

PUBLIC UTILITIES
- Pacific Power and Light Company
- Portland General Electric Company
- California-Pacific Utilities Company

MUNICIPALITIES
- City of Baker
- City of La Grande
- City of The Dalles
- City of Walla Walla

IRRIGATION DISTRICTS
- Arnold Irrigation District
- Associated Ditch Companies
- Burnt River Irrigation District
- Central Oregon Irrigation District
- East Fork Irrigation District
- Grants Pass Irrigation District
- Jordan Valley Irrigation District
- Lakeview Water Users, Incorporated
- Medford Irrigation District
- North Board of Control - Owyhee Project
- North Unit Irrigation District
- Ochoco Irrigation District
- Rogue River Valley Irrigation District
- South Board of Control - Owyhee Project
- Squaw Creek Irrigation District
- Talent Irrigation District
- Tumalo Project
- Vale-Oregon Irrigation District
- Warmsprings Irrigation District

PRIVATE ORGANIZATIONS
- Amalgamated Sugar Company
- The Crag Rats, Hood River, Oregon

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ROSS BLDG., 209 S.W. 5TH AVE.
PORTLAND 4, OREGON

OFFICIAL BUSINESS

POSTAGE AND FEES PAID
U. S. DEPARTMENT OF AGRICULTURE

FIRST CLASS MAIL

FEDERAL - STATE - PRIVATE

COOPERATIVE SNOW SURVEYS

Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"The Conservation of Water begins with the Snow Survey"